ABRIDGED REPORT OF

The Lumleian Lectures

ON THE

STRUCTURAL DISEASES OF THE HEART CONSIDERED FROM THE POINT OF VIEW OF PROGNOSIS.

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After introducing the subject matter of the lecture, Dr. Broadbent said: The muscular walls of the heart are liable to changes of various kinds, some of which constitute diseases which shorten life and give rise to much suffering. Of these structural alterations, some are extremely common—hypertrophy, dilatation, fatty degeneration; others rare—cancer, syphilitic gumma, abscess, aneurysm, and localised fibrotic induration. We shall concern ourselves only with those which are comparatively frequent; the others, obscure as well as uncommon, are very seldom recognised during life, and a diagnosis is only made when an exceptionally clear case comes under the notice of an exceptionally acute observer. Even when the common and familiar affections—hypertrophy, dilatation, and degeneration only—are taken into consideration, we find ourselves on far less secure ground than when dealing with lesions of the valves. The latter we can localise with great confidence; and knowing partly by experience, partly by the application of mechanical principles, their effects and tendencies, we can, by making out how far such effects are manifest, form an opinion as to the probable course of the symptoms and as to the future of the patient. On examination after death, again, we can understand the connexion between the lesion and the symptoms, and can follow the sequence of secondary changes in the heart and vessels which are set up by the original valvular defect. In the case of structural changes, on the contrary, we are often left in some degree in the dark even by a post-mortem examination. In one patient fatty degeneration has apparently proved fatal at so early a stage that the naked-eye characters of the condition are scarcely perceptible, and it is only by the microscope that its existence is definitely established; in another the change has proceeded so far that the fingers sink into the pale greasy walls, and the muscular fibres have almost disappeared, so that it is scarcely conceivable how the heart has been able to impress any movement whatever on the blood or how life has been sustained through the intermediate stages of disintegration. So with regard to dilatation: there is no fixed relation between the degree of enlargement of the cavities and thinning of the walls found after death and the interference with the circulation observed during life. One man will live for years with a heart which has reached the extreme limits of dilatation, while another succumbs when it is but moderately advanced. If, therefore, we could make out with great exactness the dimensions of the heart, the size of its separate chambers, and the thickness of their respective walls, which is no easy task, we could not, on these grounds alone, compare one case with another and decide upon the relative danger.

Many other considerations of extreme importance will come into the estimate—the functional vigour of the muscular walls as well as their thickness, the liability to palpitation, the state of the vessels, the degree of peripheral resistance, the presence or absence of reflex irritation of the heart from gastric or other derangement. It is of the utmost consequence that such approximation to a forecast of the prospects of life as is possible should be an object of serious endeavour. The cases are numerous, far more numerous at and after middle age than of valvular disease, and everything which has been said as to the importance of prognosis in general applies here. An early recognition of these changes, indeed, is often of greater service to the subject of them than in the case of valvular affections, since it reveals also the tendencies which are in operation, and often at a time when they can be successfully combated by treatment. Too commonly, however, no attempt is made to recognise the existence and extent of degeneration or dilatation. The symptoms due to derangement of the circulation force themselves upon the attention of the medical man, but no murmur being detected, the only diagnosis ventured upon is that of "weak heart," a vague term which covers the entire ground, from temporary functional debility to disease inevitably and imminently fatal. Such a diagnosis reacts unfavourably upon the mind of the observer who rests upon it, and makes him less exact and trustworthy, while it may be full of danger to the patient. A further justification of the prominence given to prognosis is that the grasp of all the facts of the disease and of the individual case, which is necessary to the formation of a just forecast of the result, is the best guide for treatment, whether this may demand chiefly patience and caution or must be energetic and prompt. Prognosis is not merely a well-instructed conjecture as to the ultimate issue, it is a deliberate judgment as to the processes and tendencies of the disease and as to the constitutional soundness and strength of the patient; the foresight which relates to the dangers which attend the attack, to the course which it will run, and to the influences and contingencies which make for or against the sufferer.

Hypertrophy.—The prognosis of cardiac hypertrophy is that of its cause. The character and degree of hypertrophy are important as indicating the existence of some condition which has given rise to the hypertrophy. The causes which bring about hypertrophy of the *left ventricle* are: (1) Valvular diseases; (2) stenosis or insufficiency of the aortic valves; (3) mitral insufficiency; next in frequency will be (4) protracted high arterial tension, the evidence of which is manifested by large, thickened, tortuous radial and temporal arteries or a dilated ascending aorta, the causes of which may be renal disease, incipient and confirmed gout, and the prognosis and treatment depend on the identification of the underlying condition; (5) adherent pericardium, which is difficult to diagnose, may be a factor in the causation of sudden death, and its recognition therefore is a matter of interest. Hypertrophy of the *right ventricle* arises from (1) valvular disease, chiefly mitral stenosis, or insufficiency; and from (2) conditions which give rise to obstruction in the pulmonary circulation, such as emphysema or bronchitis. The hypertrophy is rarely dissociated from dilatation, which is the primary effect of the obstruction in the pulmonary capillaries. Collapse of a portion of the lungs, contraction of a lung from pleural adhesions, fibroid phthisis, or any condition which throws considerable area of lung surface out of gear, will in a certain degree give rise to overwork and consequent hypertrophy of the right ventricle.

The diagnosis between dilatation and hypertrophy requires notice. In hypertrophy the pulse will be of that condition which has given rise to the hypertrophy. If it has arisen from arterio-capillary obstruction, from renal disease, gout, lead poisoning, or pregnancy, the pulse will be one of high tension. The artery will be full between the beats, not easily compressed, and has a cordlike feel. The pulse will not have a violent ictus, but will rise gradually and subside slowly, so much so that it is frequently described as weak. Regarding the physical signs, bulging is sometimes recognisable over the cardiac area. The apex beat is depressed to the sixth or seventh space, and may be displaced outwards. It is a circumscribed gentle heave. Palpation is always an extremely important part of the physical examination, by means of which the apex beat can be further defined and felt as a powerful but deliberate thrust in the space. When the flat of the hand is laid over the cardiac region a general bearing impulse can usually be felt. When the left ventricle is alone or mainly affected, the impulse is not very conspicuous. When the aorta is dilated pulsation may be felt in the second and third spaces near the sternum. Occasionally when the hypertrophy is considerable neither apex beat nor impulse can be seen or felt. The results of percussion must be correlated with all the other evidence as to the size of the heart. Auscultation, besides teaching the character and intensity of the sounds, must be made to contribute to the information by careful noting of the seat of maximum intensity of the sounds in the apex region. The first sound of the left ventricle, as heard at the apex, is less distinct than in a normal state of the heart; either the mass of muscle enters into contraction less simultaneously, and, the muscular tension being less sudden, yields a duller sound, or the thickness of the walls masks the sound produced by the sudden tension of the valves and tendinous cords. The second sound, which at the apex is aortic only, is, on the contrary, usually louder than normal, and is often

heard at and near the apex more distinctly than in the right second space. When the first sound is prolonged and muffled, and especially when it can be described as "impure" (a very objectionable term) or murmurish, careful examination will usually reveal that it is reduplicated, the first two sounds of the right and left ventricle not coinciding. This indicates that the left ventricle is no longer quite equal to the extra work imposed upon it and marks the supervention of a tendency to dilatation. At the base of the heart the left ventricle first sound is still less distinct than at the apex, and is, indeed, frequently quite inaudible, while the accentuation of the second is rendered more evident by the absence of a first sound. As has already been said, however, the aortic second sound may be even more distinct at the apex than in the aortic area. When this sound is not only accentuated but low pitched and ringing, the root of the aorta is more or less dilated, and the sound will be heard for some distance to the right of the edge of the sternum, perhaps over a great part of the chest and along the spine.

The sounds of the right ventricle undergo no modification of sufficient importance to require notice. Various symptoms are described as resulting from hypertrophy of the heart. Discomfort in the region of the heart, tenderness, throbbing sensations in the head and neck, pulsatile noises in the ears, audible pulsation of the carotid and other arteries, undue frequency, abrupt, irritable, and irregular action, and proneness to palpitation: some of the symptoms being the result of the size of the organ and of the vehemence of the heart beat, others being due to the cause of the hypertrophy, and others to various affections of the heart. The question of prognosis in relation to hypertrophy mostly resolves itself into this: whether the compensation which it establishes is adequate and efficient, and how far it promises to be durable. Compensation is efficient when there are no symptoms of embarrassment of the circulation, and when the heart responds to all ordinary calls upon it without undue shortness of breath or respiratory distress. The effects of exertion are an important criterion, due allowance being made for the greater liability to breathlessness which is natural to some individuals, or is produced by bodily conformation or results from a sedentary mode of life.

The sounds of the heart usually give notice when it is overtaken by the resistance to the onward movement of the blood. The interval between the first and second sound may be prolonged, the systole requiring more time than under ordinary circumstances to complete itself. So long as the normal proportion between the systolic and diastolic pauses is not disturbed, there is no indication that the heart is unequal to its work, or is suffering from the stress put upon it; but when the systolic pause is lengthened at the expense of the diastolic, so that the sounds are equidistant, the period of repose and reconstitution of the muscular fibres of the ventricle is shortened, and their nutrition must in time suffer. During systole the blood is squeezed out of the walls of the heart, and it is during the diastolic relaxation that it obtains free access to the cardiac fibres. Another evidence that the heart is yielding to the strain of overwork is reduplication of the first sound. The prognosis becomes serious when the first sound is broken up in any very considerable degree. But when the cardiac hypertrophy has been brought about by high arterial tension, whether associated with renal disease or gout, or other cause, there must be taken into consideration the possibility that the powerful heart may rupture diseased vessels in the brain.

Treatment for hypertrophy as such has always appeared to me to be out of place. The functional vigour and energy of the overgrown and over-strong heart could no doubt be reduced by various means—low diet, enforced rest, and such drugs as aconite; but, unless it is clear that the hypertrophy has gone beyond the requirements of the condition which has given rise to it, the advantage of this procedure would be more than doubtful. Even in the attempt to relieve the incidents of hypertrophy—palpitation, throbbing sensations in the chest or head, irritable or irregular action of the heart, præcordial oppression—the employment of direct cardiac depressants is rarely of service, and is at times attended with danger. In aortic stenosis, for example, I have known aconite, given with a view of quieting tumultuous action of the heart, so far to reduce the contractile energy of the left ventricle that it was no longer able to cope with the obstruction, and death quickly followed from cardiac asthenia, the pulse becoming imperceptible, the extremities livid, and the surface of the body cold and damp. This would be less likely to occur where the cause of the hypertrophy was obstruction in the peripheral circulation, as the arteries and capillaries are relaxed by such agents as depress the action of the heart.

We have really to consider, not the treatment of hypertrophy or its cause, but the treatment suggested by the hypertrophy. We shall recognise, for example, the necessity of diminishing the volume and improving the quality of the blood by appropriate diet and hygiene, and, if necessary, by tonics. We shall recognise also the desirability of diminishing the resistance to the onward movement of the blood in the arterio-capillary network by care in diet, again by aperients and by eliminants of various kinds. In some cases the resistance in the peripheral circulation may be further lessened with advantage by the physiological relaxants of the arterioles and capillaries, such as nitro-glycerine and the nitrites. By these means the work thrown upon the heart is reduced, and, if necessary, the heart may then be strengthened by such remedies as strychnine and digitalis.

All these measures are specially required when the hypertrophy is no longer equal to the task which it had originally been developed to perform, and the reduplication and other modifications of the sounds are present.

Dilatation.—When spoken of as a form of heart disease this usually means dilatation of the ventricle with or without dilatation of the right. There may be an attempt at hypertrophy of the walls, compensatory of the dilatation itself, and not infrequently the hypertrophy has produced the dilatation. More important than the anatomical condition is the physiological or functional condition, the special characteristic of which is that the ventricle does not complete its systole, but only expels a portion of its contents. In well-marked cases the chambers of the heart are always full, and, little blood being received and expelled, there is a stagnation in the auricles and ventricles which may allow of the deposition of fibrin among the fleshy columns and pectinate muscles. It has seemed to me that the imperfect emptying of the ventricles has not always been fully realised as the special feature of dilatation, but it will be seen that if a dilated ventricle launched the whole of its contents into the arterial circulation, the amount being much larger, the rate of movement of blood would be greatly accelerated, whereas the contrary is the case. The dilatation attending aortic regurgitation belongs to a different category, and, instead of aggravating the difficulties of the circulation, it is a part of the compensatory arrangement. It is clear that if a certain proportion of the blood projected into the aorta at each systole returns to the ventricle during diastole, it is an advantage, and indeed a necessity, that the capacity of the ventricle should be increased, so that, in spite of the reflux, a normal amount of blood may remain in the arteries and be distributed to the tissues. The dilatation, however, in aortic regurgitation is accompanied by hypertrophy, which enables the ventricle to contract perfectly, so that the characteristic of dilatation—the partial and imperfect emptying of the ventricle—is not present.

Dilatation is, I think, usually understood to be the result of a gradual yielding of the walls of the ventricles, either from their own inherent weakness or from undue resistance to the onward career of the blood. It is often supposed also, when dilatation exists, that it is an established and more or less unvarying or progressive condition. Both these ideas require modification. But the circumstances which are capable of producing a temporary distension of the ventricles in a sound and vigorous state of the organ are those which will be competent to give rise to dilatation when it is weak and flabby and other conditions are present which tend to dilatation, and it is more likely that the weakly ventricles give way from time to time under stress, and fail to recover perfectly than that the yielding is gradual and continuous. Arterial tension, dilatation at an early period, is comparatively rare, which would scarcely be the case were continuous resistance to the emptying of the ventricle the most efficient cause.

In violent exercise the pulse, in becoming extremely frequent, also becomes extremely soft; the arterioles and capillaries are relaxed in order to facilitate the rapid movement of the blood, which is necessary to supply fuel and oxygen to the muscles during exertion and the arterial tension is lowered. The resistance to be overcome by the

ventricles is thus reduced to a minimum, which diminishes the liability to over-distension.

In the production of dilatation a common and important, if not a constant, factor is habitual high arterial tension. A second factor, less constant, perhaps, but more important, is inherent weakness in the ventricular walls. With these proximate causes, to use an old-fashioned term, will coöperate very varied influences — exertion, excitement, chills, imprudence in eating and drinking, constipation, augmenting the stress on the heart; anæmia, anxiety, and depressing emotions diminishing its power of resistance. Acute dilatation of the heart is more common than is generally supposed. There are grounds for supposing that dilatation has been induced at once in a heart not previously affected.

A certain degree of dilatation of the left ventricle usually occurs at the onset of acute renal disease, under the combined influence of the resistance in the peripheral circulation and of the enfeeblement of the heart. In other acute diseases this may happen.

A common cause of dilatation of the heart is anxiety. Nothing is more certain than the influence of prolonged mental depression upon the heart, and the sensation of aching, oppression, and weight which attends griefs and anxiety, and which was considered to point to the heart as the seat of emotion generally, is indicative of an injurious effect upon this organ; it is almost literally true that people die of a broken heart. The combination of overwork, excitement, worry, and trouble often met with in city life, especially on the Stock Exchange or in the mercantile or financial circles during a commercial or financial crisis, brings us many cases of cardiac dilatation among men, and it is needless to say that domestic anxieties, grief on account of children who have died or given trouble, have the same effect among women. Among the special causes of dilatation of the heart, acting no doubt on pre-existing tendencies, which have come under my notice are injudicious hydropathic treatment, the so-called "Banting" method of reducing obesity, and inhalation of the fumes of Himrod's powder for the relief of asthma. In one case a gentleman suffering from dyspeptic symptoms, probably due to cardiac weakness and consequent sluggish circulation in the abdominal viscera, underwent a routine treatment by baths, wet cold packs, and compresses, under which attacks of dyspnœa came on and œdema set in. He had previously been under the care of competent observers who had not found any serious degree of dilatation. The dropsy advanced in spite of treatment, and when I saw the patient was considerable, and the physical signs gave evidence of extreme dilatation and thinning of the left ventricle. Death occurred suddenly during a paroxysm of dyspnœa.

One of the most extreme cases of dilatation I have ever met with was in the case of a lady who had undergone an amateur course of "Banting" treatment for obesity. Apparently habitual high arterial tension had been exaggerated by an exclusively nitrogenous diet, and under it the ventricle had given way. It may perhaps be well to add that in the treatment of obesity by beefsteak and copious draughts of hot water there has not been, according to my experience, increase of arterial tension, but the reverse.

Dilatation of the heart.—The diagnosis of dilatation of the heart is comparatively easy to anyone who has had a fair amount of experience and who is prepared to exercise sufficient care in making the requisite physical examination. Certain precautions are necessary, which will be pointed out later. When, however, the dimensions of the heart have been made out, and an estimate has been made of the relative degree of dilatation and hypertrophy, and of the comparative condition of the two ventricles, a small step only has been taken towards the attainment of the knowledge which is necessary in order to forecast the course and issue of the case and to direct the treatment. There may be hereditary tendency to weakness of the heart, or the heart may be worn out by an unhealthy mode of life or by protracted emotional strain, or the patient's tissues generally may lose their nutritional value early. Facts of this class are not revealed by physical signs; some of them may be known to the family medical man, but otherwise they are ascertained only by persevering and careful inquiry. It is obvious, then, that many other considerations enter into a true and thorough diagnosis of dilatation of the heart besides its anatomical condition.

The pulse in advanced dilatation of the heart is usually irregular in rhythm and unequal in force of beat, and is sudden, short, unsustained, and usually easily compressed. The artery at the wrist may be large or small; it will be specially large when there has been antecedent high tension which has dilated the arteries. The significance of a pulse of this character is not absolute, as all these characters may be present when there is no recognisable change in the walls, cavities, or valves of the heart, apparently from disordered nervous influence only. The pulse, again, need not be irregular in advanced dilatation of the heart, so long as the patient is in repose and the breathing is tranquil and easy. The regularity, however, is easily disturbed by exertion or effort, or by bronchitis, or merely by deep breathing. In moderate and slight dilatation the pulse may be regular; but while irregularity is the rule, there is no such constant relation between the degrees of regularity or irregularity of the pulse and the amount of dilatation of the heart as to make one diagnostic of the other.

Palpation in most cases of dilatation furnishes information which contributes more to precision of idea as to the actual state of the heart than any other branch of physical exploration. The right hand should be applied closely over the entire cardiac region, the palm over the right ventricle, the fingers, spread out and close together alternately, over the appendix region. Distinct impulse over the right ventricle, while it indicates more or less obstruction in the pulmonary circulation, indicates also some degree of vigour in this ventricle available for compensatory work. A mere vibration has a converse significance. The first object of attention, however, will be the identification of the point of maximum impulse in the apex region, and a careful estimation of the area over which the apex beat extends, and of its force and character; whether, for example, it is a mere concussion of the chest wall or a more or less distinct thrust at any point. According as the apex is capable of giving a distinct thrust or of communicating only a diffuse shock, and according as the beat is well defined or steady, or vaguely felt over a considerable area, will be the estimate of the degree of dilatation, and of the thickness or thinness of the heart wall. Not unfrequently neither impulse nor apex beat can be detected, or the impulse is so vague that it cannot be localised; unless this is due to overlapping lung, it indicates great weakness of the muscular walls of the heart.

By percussion the outline of the heart can be mapped out. It is more rounded in the apex region than normal, and the area of dulness is greatly extended to the left. When no impulse of any kind can be felt, we may have to depend entirely on percussion for information as to the size of the heart. I have found continuous deep dulness outwards as far as the mid-axillary line, and downwards to the seventh space, shown to be cardiac by the intensity of the sounds at the extreme limits, and, when the heart had gained strength, by an apex beat recognisable by palpation at the furthest point. The characteristic modification of the sounds of the heart produced by dilatation is that the left ventricle first sound becomes short. Usually it is also louder than normal. Probably from this change in the character of the left ventricle first sound it is almost always audible in the aortic area, contrasting in this with hypertrophy. It is audible also to the left of the apex beat. When no impulse or apex beat can be felt, the sounds, and especially the first, must be made use of to ascertain how far to the left the left border and apex of the heart have been carried by the dilatation, and in what degree the enlargement is due to dilatation or hypertrophy. Percussion, of course, maps out the deep dulness and shows approximately the limit of the heart and its extension to the left, but the point of maximum intensity of the sounds and the area over which they are audible will corroborate or correct the idea formed as to the size of the heart from percussion, and percussion yields no information whatever as to the kind of enlargement, but leaves it to be supplied by the character of the sounds on auscultation. Not uncommonly dilatation of the left ventricle is accompanied, and gives rise to a systolic apex murmur obviously due to mitral incompetence. This is induced by imperfect accomplishment of the constriction of the orifice which is part of the normal contraction of the ventricle and which coöperates with the curtains of the valves in preventing regurgitation into the auricle. Now, mitral valvular disease is attended with precisely the same combination of conditions—incompetence of the valve and dilatation of the ventricle—and of physical signs—a systolic apex murmur and displacement of the apex beat with increased cardiac

dulness. The prognosis is very different in the two cases, and it is therefore extremely important to distinguish between them. This cannot be done with any degree of confidence by means of physical signs alone, and the discussion of the diagnosis must be reserved; but it may be said that the presence of the left ventricle first sound in primary dilatation and its absence in primary valve lesion will sometimes be of great service as a factor. There is nothing in dilatation of the cavities of the heart to affect specially and directly the second sound; but in proportion as this condition of the ventricles impairs the propulsive energy of the systole, the second sound will be enfeebled; and the aortic second sound is usually weak as compared with the left ventricle first sound. The relative loudness of the sounds, therefore, enters into the considerations from which may be calculated the efficiency of the ventricle.

Very important information is often supplied by observation of the intervals between the first and second and the second and the first sounds—the short and long pauses respectively. When with dilatation of the left ventricle there is resistance in the arterioles and capillaries, which is very commonly the case, the interval between the first and second sound may be prolonged; and, as this marks the duration of the systole, it shows that the ventricle is endeavouring to cope with the difficulty and to complete its contraction. The short or systolic pause may be so prolonged as to equal the diastolic or long pause, and the sounds thus become equidistant; the first also having become short and sharp, the only difference between the sounds is one of emphasis or of pitch, and it is often difficult to say which is which. The sounds may be compared, when the heart is acting slowly, to the ticking of a clock, when rapidly, to the puffing of a distant locomotive. On the other hand, the first and second sounds may be approximated, and as we cannot suppose that a dilated and enfeebled ventricle completes its systole in a shorter time than normal, the only possible explanation is that it is quickly brought up short by the resistance in the arterial system and expels but a small proportion of its contents. This abbreviation of the systolic pause is therefore a serious indication of failure of the ventricles, and when carried to an extreme, so that the second sound follows the first immediately and almost seems to overtake it, is significant of immediate danger. In two successive attacks of symptoms due to dilatation of the heart, when the degree of dilatation appears to be exactly the same, a difference in the length of the systolic pause is sometimes the chief if not the only point which makes a difference in the prognosis. The first and second sounds are spaced in the first attack, which is survived, and approximated in the second, which proves fatal.

To what extent dilatation may go without giving rise to symptoms, provided the heart wall retains sufficient vigour to give a distinct impulse and apex push, may be illustrated by a case seen within the last fortnight. A gentleman of seventy-two consulted me on account of irregular pulse and action of the heart, with breathlessness on slight exertion. The pulse was extremely irregular and small, but rather tense; the rate about 120 per minute. The action of the heart was also hurried and irregular both in time and force, many beats not reaching the wrist. The impulse, however, could be felt and the apex beat could be defined. It seemed to me that peripheral resistance and imperfect action of the liver and bowels were contributing to the embarrassment of the heart, and a mild pil. hydrarg. and colocynth pill was ordered. The patient has taken this twice a week ever since, has continued to follow his profession, and presented himself at the age of seventy-five simply to show how well he was. The pulse was still frequent and irregular.

NATIONAL HEALTH SOCIETY.—At the annual meeting of the Society recently held, Mr. Frederick Treves being in the chair, the report showed a most satisfactory increase of work. During the past year lectures had been given to educated audiences in drawing-rooms and elsewhere, on subjects relating to the care of the health, first aid to injured, home nursing, &c., as well as many hundreds of homely talks and simple practical addresses to the poor throughout London on the care and management of children, the value of fresh air, food and cookery, &c.

ABSTRACT OF THE
Goulstonian Lectures,
ON
LEAD POISONING IN ITS ACUTE AND CHRONIC MANIFESTATIONS.

Delivered at the Royal College of Physicians, March, 1891,

BY THOMAS OLIVER, M.A., M.D., F.R.C.P.,
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LECTURE III.

DR OLIVER dealt somewhat exhaustively with the symptomatology of lead poisoning; he said it now devolved upon him to draw attention to the channels by which lead in its various forms is introduced into the system. It gains entrance into the human body by the skin, by the lungs, or by the digestive organs. Tanequerel does not admit that any absorption of lead occurs through the skin. He says that colic has never been known in the practice of the surgeons of the Paris hospitals to follow the local application of lead. The experience of the lecturer was the opposite of this. He regarded the skin as a very suitable surface for the absorption of lead. In two of his patients, lead was found by Professor Bedson in the perspiration. If lead is capable of being eliminated by the skin it must be capable of entering the system by the same channel. As regards the entrance of lead by the respiratory organs there is no doubt. People who have slept a few nights in newly painted rooms have suffered from colic. It was thus he sought to explain the *colique sèche* noticed on board French men-of-war. Lead dust disseminated through the atmosphere whilst entering by the digestive organs may also pass into the system by the respiratory mucous membrane. The insoluble lead carbonate is carried into the trachea and bronchi and probably into the air-cells of the lungs; but, in whatever part of the respiratory passages it is deposited, it comes under the influence of heat and moisture; it is moistened by alkaline fluids rich in carbonic acid coming from the lungs, and the lead carbonate is converted into a bicarbonate which is fairly soluble. A similar change in all probability occurs with the fumes of the molten metal. It has been stated that absorption by respiration is more productive of deleterious consequences than any other method of receiving the metal into the system. On this point the lecturer offered no opinion. Sir Joseph Fayrer, remarking on Dr. Oliver's paper on Lead Poisoning read two years ago at the Royal Medico-Chirurgical Society, alluded to the case of a gentleman who was anæmic, and who was supposed to be suffering from the effects of malarial fever or climatic disturbance. Some time afterwards, when seen by Garrod, the symptoms were found to be those of plumbism; and, as the patient was an inveterate snufftaker, the source of the poison was found to lie in the leaden envelope in which the snuff was encased. When this was remedied the patient soon recovered. The channel *par excellence* by which lead is passed into the system is the digestive canal. Under any circumstances the amount of lead absorbed is small, and when absorbed it is freely eliminated by the kidneys. Lead is generally present in the urine of leadworkers. With the object of determining the chemical conditions under which lead enters the system through the digestive canal Dr. Oliver had a series of experiments carried out for him by Mr. Best, under the direction of Professor Bedson, of the College of Science, Newcastle. How, for example, do lead compounds behave in contact with the various secretions which are poured out during digestion? In the experiments which follow lead carbonate was employed, and as nearly as possible in all of them the same quantities of lead carbonate and animal juices were employed. It was found that human saliva had a slight solvent action upon white lead. Its influence is greater when no other ingredient is present. During the digestion of starch by saliva in the presence of lead carbonate, it was found that less of the metal was dissolved than where saliva operated upon lead alone. Two double sets of experiments

were performed with gastric juice, artificial and natural. The experiments were performed in test tubes and in parchment tubes, as recommended for digestion experiments by Sheridan Lea of Cambridge. When lead carbonate was digested with gastric juice for three hours at blood heat more or less of the lead was always dissolved.

DIGESTION EXPERIMENTS: CARBONATE OF LEAD.

(A) Gastric Juice—(a) Natural, obtained from Fistula in Stomach of Dog. One part of filtered gastric secretion mixed with two parts of water. Digestion in test tubes.

	Amount of carbonate of lead.	Conditions of digestion. Grains of diluted gastric juice.	Amount of lead dissolved. Grains per oz. of gastric juice.
(a)	15·4 grains	154	0·00312
(b)	15·4 ,,	154	0·00206
(c)	15·4 ,,	154	0·00298

(b) Gastric Juice (Artificial: Merck's).

	Amount of carbonate of lead.	Amount of artificial juice.	Amount of lead dissolved. Grains per oz.
(a)	15·4 grains	154 grains	0·001916

(B) To show that the Active Agent in effecting the Solution of Lead Carbonate in Gastric Digestion is Hydrochloric Acid.[1]

Amount of lead carb.	Amount of pepsine.	Amount of HCl (in terms of solution).	Lead, in grains, per oz.		Total dissolved. Grains per oz. of solution.
			Diffused.	Non-diffused.	
15·4	15·4	0·3 per cent.	4·22	1·25	5·47
15·4	7·7	0·3 ,,	3·28	2·05	5·33
15·4	3·85	0·3 ,,	3·32	2·16	5·48
15·4	Nil.	0·3 ,,	5·56	2·31	5·87
15·4	15·4	Nil.	Nil.	Nil.	Nil.

These experiments were repeated with varying amounts of pepsine, but with the same percentage of hydrochloric acid; and the results indicate that the active agent throughout is the hydrochloric acid contained in the gastric juice, converting the lead carbonate into lead chloride. They also illustrate the easy diffusibility of lead chloride. When pepsine is alone present with lead carbonate, none of the metal is dissolved. The active agent therefore is the acid, and the influence of pepsine is rather to diminish than increase the amount of lead dissolved. The next question was to determine the influence of the digestion of proteids upon the amount of lead carbonate acted upon. The presence of proteid in gastric digestion was found to reduce considerably the amount of lead dissolved. It is in the form of lead chloride that lead chiefly passes into the system from the stomach, and neither as albuminate or peptonate, both of which are insoluble.

Dr. Oliver then alluded to the form in which lead passes into the system in drinking water contaminated with lead. He thought it was generally in the form of bicarbonate. The solvent influence of bile and pancreatic juice was dealt with. Digested with bile, a relatively large quantity of lead carbonate was dissolved. Bedson and Best found that three times more lead was dissolved with bile than with gastric juice. A purely duodenal digestion was then dealt with, in which gastric juice, pancreatic juice, and bile acted upon lead carbonate, albumen, and fat. Dr. Oliver then alluded to the results obtained by experimental investigation. Animals were fed upon carbonate of lead. From the first nutrition was interfered with. The animals (rabbits and rats) rapidly emaciated; one rabbit became paralysed in all its limbs. Nearly all of them lost their appetite at an early stage, and the animals drank water greedily. They generally died in convulsions. Dr. Oliver then gave the details of the post-mortem conditions met with, and showed microscopical drawings of sections of the liver and kidneys in support of his views as to the influence of lead as a poison. There was, generally speaking, to be observed in the liver of animals that had died of lead poisoning and in lead workers an atrophy of the cells—sometimes a fatty degeneration of the hepatic cells and an increase of the connective tissue, the appearances being not unlike those seen in cirrhosis of the liver. The kidneys presented appearances that are most interesting. Dr. Oliver thought that interstitial nephritis was too much regarded as the renal lesion met with in plumbism. Both in animals and in women he had found that the earliest pathological changes occurred in the renal cells. The epithelia of the convoluted tubules exhibited cloudy swelling, fatty granular degeneration, slight shedding and disintegration of the cells, and, as time went on, Bowman's capsule became thickened and laminated. The cells lining Bowman's capsule underwent proliferation, as also those within the coils of the Malpighian glomeruli. In nearly every instance the lecturer had observed a considerable accumulation of leucocytes around the afferent arteriole of the glomerulus, so that he could not but regard it as in a sense more or less characteristic of saturnine poisoning. It is upon the liver and kidneys that the brunt of the effects of lead must primarily fall. Lead is being constantly eliminated by the urine of those who work with the metal. The strain upon the kidney from the first is great, and the cells in consequence soon degenerate. So long as the kidneys are eliminating lead, the patient runs little risk from lead poisoning. Potter, of the College of Science, Newcastle, has demonstrated the pernicious effects of lead upon plants. He injected 1 cc. of a 1 per cent. solution of lead nitrate into datura stramonium, and he noticed that the flowers on the branches thus injected fell off, whereas the flowers on the other branches which had not been touched continued to bloom and reached maturity. The relationship of lead to deranged metabolism was dealt with, and particularly the association of lead and gout. Sir Alfred Garrod's observations in regard to the deficient elimination of uric acid in plumbism had been confirmed by numerous observers, but particularly by Haig, and also by Ralfe, who had shown that the alkalinity of the blood is diminished in lead poisoning. Dr. Oliver laid considerable stress upon the fact that gout in lead poisoning was not a frequent symptom in the north of England; but gout itself, he remarked, was not so frequently met with there as it is in London. He questioned whether, after all, it was a true gout that occurred in lead poisoning. He rather supported the view recently put forward by Sir Wm. Roberts—viz., that the gouty diathesis and lead poisoning have a tendency or vice in common—a tendency to uratosis or precipitation of crystalline urates in the tissues or fluids of the body. A saturnine uratosis, therefore, would be simply saturnine poisoning reinforced by a previously existing gouty tendency. The daily amount of urea passed in plumbism was deficient, generally speaking; and Mr. Wm. Turnbull, who had carried out an extended series of observations on Dr. Oliver's patients in the Newcastle Infirmary, had noticed how much increased in severity headache became when urea was intermittently discharged in abnormally small quantities.

In the first lecture Dr. Oliver alluded to the relation of intemperance and plumbism. Combemale and François have shown how very susceptible dogs are to the influence of lead, and how very rapidly nervous symptoms are developed in them. They become the subjects of hallucinations and illusions of sight, and are extremely liable to become epileptiform or choreiform. The interesting point brought out by these observers is the influence shown by alcohol in precipitating epileptiform seizures. In a guinea-pig Dr. Oliver had noticed that the administration of small quantities with the food, which contained lead, precipitated a fatal termination. If there is one class, therefore, to whom the results of clinical experience and experimental research apply it is to lead workers. To them alcohol is a poison; it must in many instances have determined epileptiform seizures terminating fatally which complete abstinence would either have postponed or altogether prevented.

The lecturer, in bringing his subject to a close, drew the attention of his hearers to what he regarded as the explanation of acute lead encephalopathy. He admitted that lead was found in the brain and in the various organs of the body. The charts exhibited showed all this; but he did not think that the epileptiform seizures and death which took place in these cases were due to the presence of lead in

[1] The results obtained are not intended to be compared with the experiments made with artificial and natural gastric juice.

the brain. In one of his most recent cases, where a girl had only worked for forty days in a lead factory, no lead was found in the brain on the most careful chemical analysis. It appeared to him that lead deranged the functions of the liver and kidney; their power as emunctories failed; the secretion of urine gradually lessened—sometimes even it ceased altogether; and the eclampsia—even whilst up to the commencement of the attack the urine was found to be free of albumen—could only be explained by the circulation of animal poisons that had been retained. Cerebral anæmia or hydræmia was invariably present after death, the surface of the brain appeared compressed, and the arteries contracted. These were circumstances which doubtless aided in bringing about a fatal termination.

To the use of preventive measures he had little to add, or to the treatment of saturnine paralysis by electricity. He had noticed that opiates, with castor oil, iodide of potassium, and sulphate of magnesia, gave satisfactory results in colic. Alum was not a successful remedy for colic in his cases. Lithia had increased the amount of urinary secretion, but had had no effect upon paralytic conditions. In the cases of acute lead encephalopathy nothing gave such satisfactory results as the inhalation of nitrite of amyl. Convulsions were frequently warded off by it. Pilocarpine had been successful where convulsions with complete suppression of urine had occurred.

INTESTINAL OBSTRUCTION CAUSED BY TUMOUR; ILEOSTOMY; DISAPPEARANCE OF TUMOUR; SUBSEQUENT ENTERORRAPHY; RECOVERY.

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THE following case is remarkable as an example of the spontaneous disappearance of a solid abdominal tumour of considerable size after abdominal section. A few such cases have been recorded, but they have been received either with open incredulity or great hesitation. It is necessary, therefore, in this instance to supply a full clinical account of the case which has been throughout under the observation and treatment of my colleagues and myself at the Bristol Royal Infirmary.

Lionel L——, aged twenty-five, shop assistant, was admitted to the Bristol Royal Infirmary on June 1st, 1889, complaining of pain in the abdomen, with frequent vomiting. Seven weeks previously the patient first felt pain in the hypogastric region; this gradually increased till, a month ago, he had to give up his work in London and go home to Wells. The day after his return home the pains became very severe, and in the evening he vomited a good deal of brown fluid. Dr. Fairbanks of Wells saw and prescribed for him, and he improved for a few hours. The pain and vomiting returned the next afternoon, but under treatment again abated, and he continued fairly well, though confined to bed for a week. At the commencement of the following week—that is, three weeks prior to admission—pain and vomiting recurred, and continued daily at intervals, chiefly in the afternoon and evening, up to the time of his admission. The bowels had been acting regularly but not satisfactorily. A fortnight previously he had on two occasions noticed that some whitish glairy fluid passed before the motion. Family history unimportant. The patient was a thin, pale man, with an anxious, pinched countenance Pulse about 100; temperature 99° F. Abdomen distended to the utmost, measuring 31 in.; muscles very tense, almost brawny. Exaggerated resonance all over the abdomen, except over an area measuring 2 in. in diameter a little above the left anterior superior iliac spine. In this dull area a hard mass could be distinctly felt, but, on account of the abdominal distension and the muscular rigidity, could not be fully palpated. The tumour could just be felt by the finger in the rectum.

Progress of the case.—June 2nd: Temperature 98·5°. Urine, sp. gr. 1032; neutral; no albumen; trace of sugar. No action of bowels since admission. A seidlitz powder was administered and an unsatisfactory action followed. Sickness and pain at 3 P.M., for which morphia was administered. Another severe attack of pain at 8 P.M., with vomiting, for which morphia was given. The vomited matter was light-brown in colour and odourless. Diet to consist of peptonised liquid foods.—3rd: Temperature 98·8°. Bowels acted once slightly after seidlitz powder. No sickness. Chloral draught at night.—4th: Temperature 98·2°. Urine, sp. gr. 1020; no albumen; trace of sugar. Pulse 76. Seidlitz powder followed by severe pain. Chloral draught was immediately vomited. Severe pain and vomiting at 7 P.M. The pain continuing, and getting worse, an injection hypodermically of ¼ gr. of morphia was administered at 8 P.M.; relief of pain, but no sleep.—5th: The abdominal distension is, if possible, more marked; violent peristalsis, with loud gurgling noises, the intestinal contractions being visible through the parietes. As the patient was evidently losing ground, and would soon be in a condition when operation would be impossible, it was decided after consultation of the surgical staff to operate, with the view of relieving the obstruction, which, although not absolute, was evidently becoming so.

At 1 P.M. on June 5th, the patient being under the influence of chloroform, the following operation was performed: An abdominal incision, beginning 1½ in. below umbilicus, 2 in. long, was made; the parietal peritoneum was thickened and vascular, chiefly towards the left side. Occupying the left side of the abdomen and extending from the pelvis upwards towards the umbilicus was a hard, rounded tumour as large as a cocoa-nut, to which several coils of small intestine were firmly adherent. The growth was fixed below, and could not be moved from its position. The abdominal opening being dragged to the left the growth was exposed to view, and was seen to be covered with thickened peritoneum of a dusky hue, and with large vessels coursing over it. An aspirator needle inserted into its substance showed it to be solid; the puncture bled rather freely. A piece of distended ileum as close to the tumour as possible was pulled to the surface and fixed to the abdominal wound, with a view to subsequent opening. Fixation was made by two sutures passing through the parietes and outer coats of the bowel at the top and the bottom of the wound; and by two Halsted sutures passed through the outer coats of the bowel, and fixed to strapping at the sides of the wound. There was no suturing of parietal peritoneum to skin, and no sutures were placed in the incision beyond the two, which also passed through the outer coat of the bowel. Dressing of boracic lint and absorbent wool.—June 6th: Temperature normal; pulse 102. Vomited twice. Hot water rectal injection at 2 30 A.M. to relieve thirst; restless night.—7th: Temperature normal; pulse 76; no vomiting; a good night.—8th: Temperature 97·5°; pulse 69. Passed a good night. Intestine opened and a No. 8 celluloid catheter bent in hot water to a sigmoid curve was passed into its lumen. An indiarubber tube was attached to the outer end of the catheter and conveyed the intestinal contents into a bottle placed by his side. The intestine was firmly glued to the parietes, and there was no fouling of the wound by escaping fluids during the opening of the bowel. Bowels opened twice naturally after the intestine was opened.—9th: Temperature 98°; passed a fair night. Free escape of intestinal gases and fluids into the bottle.—10th: Temperature subnormal; pulse 74. Wound dressed, quite healthy and free from inflammation. A large piece of rubber tubing placed in the intestinal opening instead of the small catheter. Free discharge of brown fæcal matter; abdomen nearly flat. Bowels acted naturally twice.—11th: Temperature subnormal. Not much discharge through the tube till the evening, when a pint of brown stercoraceous matter was rapidly ejected. This matter on being tested showed the presence of bile pigment. Bowels acted slightly after a simple enema.—12th: Temperature 97°. Patient improving in every way. Distension nearly gone.—13th: Temperature 97·5°. Continued improvement. Tube acting satisfactorily; discharge distinctly stercoraceous.—14th to 19th: Steady progress. About a pint of stercoraceous matter discharged daily through the tube into the bottle. No action of the bowels for five days till the 19th, when there was a slight action.—23rd: Free action of the bowels after soap enema continued daily till the 29th, when he was discharged with a small fistula,

through which a little yellow fæcal matter escaped at intervals during the day. The bowels acted normally and regularly. All abdominal distension was gone, and there was no pain or nausea at any time. The tumour, now that all distension was gone, caused a quite visible bulging in the left lower abdomen, and was easily palpable. It had apparently increased in size, certainly it had not decreased.

From time to time the patient came to the infirmary for inspection, when we were surprised to find the growth gradually diminish in size, till in August, 1890, no trace of it could be felt. The patient himself had greatly improved in health, being then quite robust, well nourished, and, with the exception of the intestinal fistula, in perfect health. During this month he stayed in the infirmary for a week, when an attempt was made to close the fistula by Mitchell Banks' method, which failed.—Dec. 2nd: He returned with a view to having the fistula closed. Not more than a drachm of fluid came through it daily; but this had ceased to diminish in amount, and his work could not be satisfactorily performed while it existed. For a few days a diet was administered which left little residue, the bowels were kept acting freely, and enterorraphy was performed on the 8th. Chloroform anæsthesia; thorough scrubbing with soft soap all around fistula, and washing with 1–20 carbolic lotion. A small sponge with string attached passed into the fistula and pulled outwards, so as to keep it plugged. Abdominal incision an inch below fistula, and extending downwards for two inches more. Numerous adhesions between bowel and parietes carefully separated, working upwards towards fistula, where adhesions were so dense that they had to be divided by cutting. Incision carried an inch above fistula; bowel freed, brought through the wound, and closed above and below the fistula by Makin's clamps. Opening in intestine closed by Lembert's sutures arranged along axis of bowel. Parts well irrigated with warm boracic lotion. Bowel returned, and parietal wound closed with silkworm gut sutures.—10th: Progress entirely satisfactory, except that he complained of pain in the penis in passing urine and for a short time afterwards. Temperature 98°. Urine acid; sp. gr. 1033; no albumen; urates.—13th: Progress continues satisfactory, with normal pulse and temperature. Still pain on micturition. Urine smoky and acid; sp. gr. 1028; contains some albumen and blood. Wound dressed; stitches removed. Perfect union, except at seat of fistula, where a minute orifice exists, which is granulating.—16th: All pain on micturition now gone. Urine normal.—Jan. 3rd, 1891: Patient getting up and having ordinary diet.—13th: Patient discharged well; wound quite firm and dry.

Remarks.—What the nature of the tumour was I cannot say. It was perfectly solid, globular in shape, nearly as large as a child's head at birth, and had naked eye characters such as we associate with sarcoma. In the opinion of my colleagues who saw it and myself, it was malignant, and this opinion was conveyed to the relatives of the patient. The result proves that it was not malignant, however. It was certainly not fæcal, and there were no evidences that it had an inflammatory origin, either simple or specific—indeed, all the signs were against this. Believing that the tumour was sarcomatous, and finding the bowels closely adherent to it, and therefore probably infected with the growth, I did not attempt removal. Ileostomy seemed to be most likely to relieve the patient of the great distension from which he suffered and from the recurring storms of intestinal contraction which caused so much pain. The operation performed in the manner described above was of the simplest character, and added little risk to the patient's condition. I am convinced that the elaborate methods of suturing usually recommended in this operation are quite unnecessary, even when the bowel is to be opened at once; and I have with perfect success still further simplified the mode of operation which I employed in this case eighteen months ago. The subsequent operation of enterorraphy was delayed until it seemed certain that the further maintenance of the fistula was unnecessary. Indeed, the fistula would probably have closed spontaneously at the end of three or four months had it been permitted to do so; at the end of a year the tissues around had become very hard and dense, and after failure of a simple method had been proved, enterorraphy was performed. It may be added that at this operation, with the fingers inside the abdomen, there was no trace of tumour to be felt.

Clifton

REMARKS UPON THE PROGNOSIS IN CROUPOUS PNEUMONIA.

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THE opinions advanced in this short paper are the outcome of a series of observations made in hospital and private practice over a considerable number of years. The prognosis of pneumonia is a subject of the deepest interest, and the fact that the disease is both short and acute—one in which the hopes and fears are crowded into a very few days, gives it a fascination that belongs to but few other medical topics. I am not concerned now with the statistical question of the mortality in pneumonia, but rather with the clinical grounds upon which a prognosis may be attempted. This much I may say, that in my opinion the rate of mortality in pneumonia is generally placed too low. Some statistics give a loss of but 8 per cent., others as low as 3½ per cent., whilst Hughes Bennett recorded 105 cases without a death. Of course it will be recognised that the mortality varies very much in different years and at different seasons, but my experience has led me to look upon pneumonia as one of the most fatal of acute diseases. At the outset I wish it to be understood that my remarks refer to what I may call fairly typical croupous pneumonia. I would rather not involve the subject by including complicated cases—as, for example, pneumonia arising in the course of Bright's disease, or after traumatism or surgical operations, or that complicated by ulcerative endocarditis. Nor do I propose to include that interesting group of cases in which empyema follows an attack of pneumonia.

It will, I think, be conceded that we all undertake the management of a case of uncomplicated pneumonia in the most hopeful spirit, and that our reply to questions raised by anxious friends, during the first few days, as to the risk is almost invariably reassuring, except in the case of the drunken, the aged, and the otherwise enfeebled. Yet few there are who have not had their minds rudely disabused, and their predictions falsified, by the appallingly sudden, because unexpected, termination to what promised to be a favourable case in a robust person. It would undoubtedly be a great gain if we could recognise indications of approaching danger some little time before the end is upon us, and thus diminish the number of so-called sudden and unexpected deaths in pneumonia, and so lessen the reproach that *prognosis* is one of the weakest phases of our art.

Naturally, the first point to be considered is the general condition of the patient—his ability to resist so serious an illness. Here, of course, the gross abuse of alcoholic stimulants plays a most important part, and for the special reason that in the great majority of fatal cases the result is due to cardiac failure, to which necessarily previous alcoholic excesses largely contribute. Then weak and elderly people are always insecure, though it must be admitted that, like the drunkard, the old and feeble will sometimes battle successfully with the storm in a manner that surprises the doctor and friends alike. These must therefore be prognosed with the utmost care, for assuredly no general rule founded on shattered constitution will apply. The same may be said of those liable to bronchitis, particularly if the subjects of emphysema to any extent, for although the risk is decidedly increased, few would think of condemning the patient on this ground alone. In this connexion it should be borne in mind that most of the expectoration in pneumonia is from the bronchial mucous membrane, which is stimulated to secrete in nearly every case, more or less, but particularly in cases of old-standing bronchorrhœa; and that this excessive secretion has a most damaging effect upon the portions of lung that are carrying on respiration. Further, old-standing cases of emphysema have associated with a general change in the vessels of the lung a condition of heart by no means favourable for withstanding an attack of pneumonia.

In venturing to offer an opinion as to the result in a case of pneumonia it is most important to determine the day of the disease, as symptoms of little or no prognostic moment at one time prove to be of the greatest value at another. It is not always an easy matter to say what day of disease the case has reached, for although the initial rigor will prove a useful guide in the majority of cases, it not unfre-

quently happens that there is no distinct rigor at all, and again in some instances the rigor is postponed for a day or two after the beginning of the illness. It must be freely admitted that at times it is absolutely impossible to fix the commencement of the attack. So many cases are preceded by catarrhal complaints, particularly bronchitis, with a general feeling of illness, that we are often informed that the patient has been ill for eight or ten days when the pneumonia has probably just developed. We are, therefore, compelled, in the absence of a conclusive statement, to determine the day of the disease as accurately as possible by a careful consideration of all the main features of the case, attaching due weight to the history of a rigor. The occurrence of an antecedent or prodromal illness does not appear to influence the prognosis to any extent, except in so far as it serves to lower the patient's vigour. Nor is much importance to be attached to the period of incidence of the consolidation, though it is not without some significance. In the majority of cases the third day is reached before consolidation can be clearly demonstrated, whilst it is not unfrequently the fourth. In my experience dulness on percussion, with tubular breathing, is to be regarded as unfavourable when it occurs very early in the course of the disease. And it will be found occasionally that the cases in which the dulness is decidedly postponed run an unsatisfactory course; these, however, are not reliable prognostic factors.

I am not satisfied that the situation of the consolidation is a guide of any practical value in prognosis. As is well known, some attach great importance to the apex lesion, in which case it is the custom to shake the head with ominous gravity. In my own practice, however, apex consolidations have not proved especially fatal. I refer, of course, to cases in which the upper portion of the lung is affected in the first instance, for I admit at once that extension of the disease upwards in basic pneumonia is a very serious event. We all watch the expectoration with interest, and it will, I think, be conceded that lessons of importance are often to be learnt from its nature. A total absence of expectoration is both rare and significant. It is rare, for as a rule in cases in which we are shown an empty spitcup or stainless handkerchief the patient has swallowed the expectoration. This he may do as the result of impaired vigour, or it may arise from inattention due to mental hebetude; in either case it is important. But some patients appear to have no free secretion to expectorate, and they seldom do well. On the other hand, a large quantity of frothy bronchial secretion is to be regarded with suspicion; for although some have strength enough to carry them through, notwithstanding this and other obstacles to their recovery, many are so hampered by the incessant coughing, sleeplessness, cardiac difficulty, and increased respiratory effort, all of which are the usual accompaniments of copious secretion in pneumonia, that the balance is turned against them. The superabundant expectoration in these cases is shown by noisy râle and almost constant cough. The patient is pale and haggard, with increasing cyanosis, and is worn out for want of rest. My own observations have led me to favour in the main the view that the prognosis is unfavourable in cases in which the expectoration is of a dark prune-juice character; but I have so frequently seen this indication falsified that I am not disposed to rely upon it in the absence of other grave signs. A thin watery fluid, especially when it is heavily charged with blood-colouring matter and profuse, is a serious omen, indicating as it does an extensive œdema of the lung. The cases that run the most satisfactory course to convalescence are those with a moderate amount of arrowroot-like expectoration, stained a rusty or yellowish-fawn or orange-juice colour. It should always be recollected that a falling off in the expectoration when the râles are on the increase, especially towards the sixth day, is most unfavourable.

Although not of so much importance as some other indications, the temperature is not to be despised in prognosing a case of pneumonia. A continued high temperature from the first (at or about 104°) is suspicious, and if it reach 105° on two consecutive days without any material decline it is highly dangerous. So also is a fall about the sixth or seventh day, if associated with an increased respiratory rate. Marked acceleration in the respiration is no doubt a symptom of danger, and in the adult the outlook is serious when a rate above 50 is maintained. But it is the pulse that furnishes us with the most reliable information, and were I restricted to one sign I would unhesitatingly select the indication afforded by the pulse in venturing on a prognosis. It yields no uncertain sound. By it we recognise the heart failure that is so much to be dreaded, and is so often the cause of death from the sixth to the eighth day. In considering the pulse it is most important to keep ourselves informed as accurately as possible as to the day of disease. For a good steady pulse of 100 or 110 may mean nothing on the third or fourth day, whereas on the seventh or eighth it seldom fails to indicate recovery. On the other hand, a rising pulse at this time is a warning not to be mistaken, while the same phenomenon on the third or fourth day may have no real significance. Few who have watched with anxiety the course of a severe attack of pneumonia—say, in a valued friend, when perhaps frequent observations are made—can have overlooked the rise in the pulse-rate that almost invariably ushers in unfavourable symptoms about the sixth, seventh, or eighth day. This rise is essentially progressive, as shown by the addition of a few beats in the minute as hour succeeds hour. A pulse of 120 in the morning of the sixth day is 130 in the evening, or perhaps more, rising to 140 during the succeeding twelve hours, and as it rises becoming smaller, with the running character, or perhaps intermitting, or it may be full and bounding, though compressible. Whatever particular quality indicative of failure it may possess one is almost constant—viz., increasing rapidity. Now, as already remarked, this sign to be of prognostic value should be a feature of that particular period of the illness when the pneumonic consolidation is at or is approaching its height—usually from the sixth to the eighth day. And it should be observed that the unfavourable indication lies in the fact that the rate is constantly rising. I have repeatedly, for example, known of cases that made an excellent recovery with a rapid and very empty pulse, maintained at about 130 to 135 on the seventh day. The observation that the pulse is not rising is particularly valuable in cases marked by extending consolidation at the time of an expected crisis, for these not unfrequently do well, which is seldom the case when the pulse-rate rises rapidly *pari passu* with the pneumonic extension. A very rapid pulse from the beginning is disquieting, as the heart is apt to fail at the critical moment. The urine should be examined often for albumen, and due weight attached to its presence if in any quantity.

It is essential to watch closely the progress of the pulmonary lesion, as a constantly extending area of dulness after the sixth day is decidedly ominous. It is no doubt difficult in many cases to determine whether or not the disease is extending, partly owing to the medical attendant's dislike to making frequent examinations, and partly because the consolidation often sets in rapidly, for a little harsh breathing in the area subsequently affected may be the sole premonitory sign even a few hours before the exudation solidifies. Notwithstanding the difficulties, it will amply repay the practitioner to give special attention to this point. The later the period in the attack the extension takes place, the greater the importance to be attached to it. Thus, for example, an extension from the lower to the upper lobe on the eighth day is a prognostic sign of much greater moment than on the sixth. It is most important in weighing the significance of extension as a prognostic criterion to determine accurately the condition of the portion of lung primarily affected. If we find that the tubular breathing at the base has been replaced by a feeble respiratory sound accompanied by medium crackling râles, and that the dulness, though still pronounced, is diminishing—in other words, that the process of repair has set in satisfactorily in the part of the lung first consolidated (say, on the seventh or eighth day), notwithstanding the extension of the lesion,—the prognosis is by no means so bad as when the consolidation is still active, as shown by a continuation of the tubular breathing and pectoriloquy.

Much valuable aid is derived from the nervous symptoms of pneumonia. Delirium is unfavourable in the main, but particularly when it is constant throughout day and night and occurs early in the course of the attack—say, on the second or third day. It is generally recognised with truth that quiet delirium confined to the night time is a symptom of little importance; but, on the other hand, all practical men dread the advent of wild, noisy delirium with constant restlessness. Sleeplessness, a very common symptom, is usually associated with delirium when it presages a fatal termination; but in any case it decidedly adds to the gravity of the illness, and has its weight in the prognostic scales. The pupils are frequently altered in cases with an unfavourable bias. They may be contracted—a condition often associated with cyanosis, a small rapid and empty

pulse, and quiet delirium. Or they may be dilated and sluggish, when the delirium is generally noisy and irrepressible, with much excitement. As the end approaches there is not unfrequently rigidity of the limbs, which seldom lasts long and may be associated with spasm of the abdominal muscles and involuntary fæcal discharge.

To recapitulate. A prognosis can only be attempted, save on general grounds, when the lung mischief is approaching its acme—after the fifth day. The principal factors are the patient's general condition, the pulse, and the amount of albumen, as the indices of the circulation, and the limits of the lesion. But every symptom is no doubt of value, and requires to be carefully considered; for it is unfortunately only too true that with the utmost attention to every point we are often taken unawares. Patients will succumb, passing into a state of rapid collapse with little or no warning, even after they have passed through what appears to be a satisfactory crisis. It is noteworthy that in some cases the disease is protracted much beyond the usual limits, the pulse and temperature declining about the tenth day and the general symptoms improving to a certain extent, but with a continuation of the dulness on percussion and a degree of illness that still excites uneasiness. In the great majority of instances these cases turn out to be purulent effusion (empyema) following on the attack of pleuro-pneumonia. This is a point of the greatest practical importance, for if not recognised and dealt with, the patient may sink exhausted in a few weeks. I have expressed my opinion elsewhere that the ordinary cases of empyema that come under treatment as chronic or subacute chest affections are the outcome of pleuro-pneumonia, and my later observations have convinced me of the truth of this statement, and if such be the case, the prognosis of pneumonia embraces the prognosis of empyema—an exceedingly difficult task.

Newcastle-on-Tyne.

AN EXPERIMENTAL INQUIRY INTO THE INFLUENCE OF THE PULMONARY BLOOD PRESSURE UPON THE COLLAPSED LUNG.

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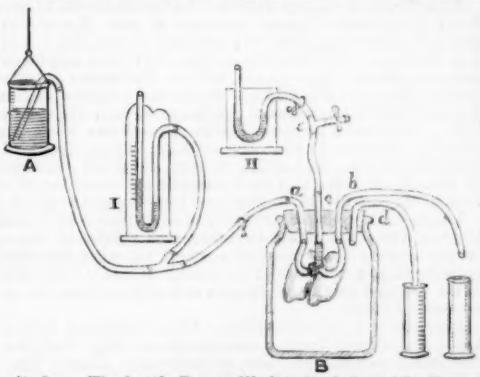
(From the Physiological Laboratory, Surgeons' Hall, Edinburgh.)

IN a lecture which I published on the "Method of Cure in Empyema"[1] it was pointed out that a satisfactory termination can only be brought about in that affection by the combined action of several factors. It is not necessary to discuss these factors in detail; all of them are well known and more or less understood. Their mere mention will suffice. Normal expiration aids to a certain extent; forced expiration and coughing are of special importance; while possibly a valvular action at the wound, and the absorption of a certain quantity of air between the intervals of dressing, if these intervals be sufficiently long, may also be of service. As further adjuvants we have the formation of pleural adhesions, and in some cases the falling in of the chest wall, and the return of the heart to its normal position, should that organ have been displaced by the pleural effusion. All these factors are of importance; but there is, I believe, another which plays a considerable part in the expansion of a lung when we make a thoracic fistula—namely, the action of blood pressure in the pulmonary artery and its branches. I have arrived at this conclusion as a result of an experimental inquiry made into the subject.

Method.—The apparatus employed resembled in many respects the oncometer of Roy (Fig. 1). It consisted of a bottle filled with olive oil in which the lungs were suspended while blood was circulated through them. The increase in the volume of the lungs was measured by the amount of oil displaced during the experiment. The lungs of rabbits recently killed were used, and both lungs were employed, because it was found inconvenient to work with one lung only. The contents of the thorax were removed. The heart was then cut across at about one-third from its base, and two cannulæ were introduced—one into the pulmonary artery, and the other into the left auricle towards the pulmonary veins. A third cannula was introduced into the trachea. Before commencing the experiment the volume of the lungs was first ascertained by measuring the quantity of water they displaced. The three cannulæ were connected by indiarubber tubing to glass tubes fitted into the cork of a large bottle. The tube (*a*) in connexion with the pulmonary artery was fitted into a piece of tubing leading to a vessel (A) containing a mixture of equal parts of defibrinated blood and normal saline solution, and also connected by means of a T-tube with a mercurial manometer (1). The pressure in the pulmonary artery could be varied by lifting the vessel containing the blood and salt solution to any desired height. The tube in connexion with the pulmonary vein (*b*) was fitted with a piece of tubing, and the blood as it flowed out of the lungs collected in a vessel. The third (*c*) tube was tied in the trachea, and a fourth (*d*) served to conduct the oil displaced during the experiment into a graduated



cylinder. The bottle B was filled to its brim with olive oil and the cork then carefully inserted, and when oil had ceased dropping from the outflow tube the experiment was begun by removing a clamp which had been placed on the tubing in connexion with the pulmonary artery. The experiments were commenced with the pressure at 12 mm. of mercury. The actual blood pressure in the pulmonary artery of the rabbit is, according to Knoll, 12·07 mm. mercury.[2] When oil ceased to be displaced by a pressure of 12 mm., the vessel containing the blood was gradually raised until in some experiments it reached 30 mm. After the experiment was completed the volume of the lungs was again taken with the trachea tied. The quantity of oil displaced was added to the initial volume of the lung. This should correspond to the volume of the lung after the experiment, and the difference between the two gives the limit of experimental error. This on an average was 4·1 per cent., and it is mainly due to the occurrence of a leak in Experiments 3 and 5.

Experiment 1.—Large rabbit. Lungs displaced 10 cc.—12.18: Experiment begun; pressure 12 mm. Hg.—12.20: Circulation established and oil displaced simultaneously.—12.23: 3 cc. oil displaced.—12.25: 3 cc.; pressure raised to 15 mm.—12.28: 3 cc.; pressure raised to 30 mm.—12.29: 30 mm.; 4 cc. oil displaced; volume of lungs after experiment 14·5 cc. Leak occurred; experiment stopped.

The lungs were ecchymosed, and the circulation was not established until two minutes after the experiment was begun. Quantity of oil displaced by normal pressure 3 cc., indicating an increase in volume of lung of 33 cc. Total displacement of oil with increased pressure 4 cc.; added to 10 cc. initial volume of lungs gives 14 cc. Actual volume of lungs at end of experiment 14·5 cc.; an error of 3·4 cc.

Experiment 2.—Large rabbit. Lungs displaced 14 cc.—6 P.M.: Experiment begun; pressure 12 mm. Hg.—6.0.5: Circulation established; pressure 12 mm. Hg.—6.1: 5 cc. displaced; pressure 12 mm. Hg.—6.3: 5 cc. displaced; pressure 12 mm. Hg.—6.5: 5 cc. displaced; pressure 15 mm. Hg.—6.10: 6 cc.; pressure 20 mm. Hg.—6.12: 9 cc.; pressure 25 mm. Hg.—6.14: 19 cc.; pressure 25 mm. Hg.—6.15: 20 cc.; experiment stopped; pressure 25 mm. Hg. Lungs displaced 35 cc.

Circulation became established in half a minute, and 5 cc. of oil were displaced in one minute. No further displacement took place until the pressure was increased. Quantity of oil displaced by normal pressure 5 cc., indi-

[1] Edinburgh Medical Journal, December, 1888.

[2] Sitzgsb. d. Wiener A. math. med. Wissensch., Bd. xcvii., Abt. 3, 1888.

cating an increase in volume of lung of 28 per cent. Total displacement of oil with increased pressure 20 cc.; added to 14 cc. initial volume of lungs gives 34 cc. Actual volume of lungs at end of experiment 35 cc.; an error of 2·8 cc.

Experiment 3.—Large rabbit. Lungs displaced 18 cc.—6.12: Experiment begun; pressure 12 mm. Hg.—6.17: 4 cc. displaced; pressure 12 mm. Hg.—6.18: 4 cc. displaced; pressure 12 mm. Hg.—6.20: 5 cc. displaced; pressure 15 mm. Hg.—6.25: 9 cc. displayed; pressure 20 mm. Hg.—6 30: 12 cc. displaced; experiment stopped; 20 mm. Hg. A leak occurred. Lungs displaced 32 cc.

Quantity of oil displaced by normal pressure 5 cc., indicating an increase in the volume of lung of 36 cc. Total displacement of oil with increased pressure 12 cc.; added to 18 cc. initial volume of lungs gives 30 cc. Actual volume of lung at end of experiment 32 cc.; an error of 6 cc.

Experiment 4.—Large rabbit. Lungs displaced 17 cc.—5.13: Experiment begun; pressure 12 mm. Hg.—5.15: 5 cc.; circulation established; pressure 12 mm. Hg.—5.15: 5 cc. displaced; pressure 12 mm. Hg—5.17: 6 cc. displaced; pressure 13 mm. Hg.—5 19: 6·75 cc. displaced; pressure 13 mm. Hg.—5.20: 6·75 cc. displaced; pressure 17 mm. Hg.—5.23: 7·5 cc. displaced; pressure 17 mm. Hg.—5.25: 7·5 cc. displaced; pressure 20 mm. Hg.—5.26: 10 cc. displaced; pressure 20 mm. Hg.—5.27: 10 cc. displaced; pressure 30 mm. Hg.—5.30: 11·5 cc. displaced; pressure 30 mm. Hg.—5.34: 15·5 cc. displaced; pressure lowered to 10 mm. Hg.—5.40: 16 cc. displaced; experiment stopped.

Lungs displaced 34 cc. Quantity of oil displaced by normal pressure 6 cc., indicating an increase in volume of lung of 28 per cent. Total displacement of oil with increased pressure 16 cc.; added to 17 cc. initial volume of lung gives 33 cc. Actual volume of lung at end of experiment 34 cc.; an error of 2·9 cc.

Experiment 5.—Large rabbit. Lungs displaced 13 cc.—5.28: Experiment begun; pressure 12 mm. Hg.—5 28.5 cc.; circulation established, flow, in drops only, 12 mm. Hg.—5.30: 3 cc. displaced; 12 mm. Hg.—5.35: 3·5 cc. displaced; 12 mm. Hg.—5 36: 5 cc. displaced; 15 mm. Hg.—5.40: 6 cc. displaced; 18 mm. Hg.—5.45: 7 cc. displaced; 20 mm. Hg.—5.48: 10 cc. displaced; 25 mm. Hg.—5 51: 12 cc. displaced; 30 mm. Hg.—5 54: 15 cc. displaced; 30 mm. Hg.—5.58: 18 cc. displaced; 35 mm. Hg.—6.0: 22 cc.; experiment stopped. A leak occurred.

Lungs displaced 37 cc. Quantity of oil displaced by normal pressure 5 cc., indicating an increase in volume of lung of 26 per cent. Total displacement of oil with increased pressure 22 cc.; added to 13 cc. initial volume of lungs gives 35 c.c. Actual volume of lung at end of experiment 37 cc.; an error of 5·4 cc.

The following table gives a summary of the results of the experiments:—

With Pressure of 12 mm. Hg. (Normal).

Experiment.	Duration of experiment in minutes.	Initial vol. of lung in ccm.	Oil displaced in ccm.	Per cent. increase in vol. of lung.
1	7	10	3	30·0
2	5	14	5	35·7
	8	18	5	27·2
	4	17	6	35·2
5	8	13	5	38·1
—	32	72	24	165·2
Average	6·4 minutes.	14·5 cc.	4·8 cc.	33·2 per cent.

With Increased Pressure.

Experiment.	Duration of experiment in minutes.	Maximum pressure.	Total vol. of lungs.	Total oil displaced.	Error in cc.
1	4	30	14·5	0·4	0·5
2	10	25	35·0	20	1
3	10	20	32·0	12	2
4	23	30	34·0	16	1
5	24	35	37·0	22	2
—	71	140	152·5	74	6·5
Average	142 minutes.	28 cc.	30·5	14·8	1·3

The question next arises, Was the increase in the volume of the lung due to a true expansion of the alveoli or to the development of an œdema? To determine this a series of experiments were performed similar to the foregoing, but in addition the glass tube in the trachea was connected by means of indiarubber tubing with a water manometer (2). A T-tube was placed in the connecting tube so as to allow of an adjustment to the level of the fluid in the limbs. The results of these experiments corroborated in every respect those of the first series, and at the same time it was found that when the blood circulated through the lungs at the normal pressure (12 mm. Hg.) the water in the arm of the manometer next to the trachea rose, on an average, three centimetres, indicating clearly that an expansion of the air vesicles was occurring.

We thus have under the influence of the normal pulmonary pressure an expansion of the lungs of the rabbit to the extent of 33 per cent. of their volume in the collapsed state. We can only have the full benefit of the action of blood pressure when the thorax is opened, for until the pleural effusion is evacuated, the lung is surrounded by a medium which is incompressible, and which renders expansion impossible.

My thanks are due to my friend Dr. Noël Paton for the use of his laboratory, and for much valuable assistance in carrying out this research.

Edinburgh.

THE

DIAGNOSTIC VALUE OF THE PHYSICAL SIGN "TRACHEAL TUGGING" IN THORACIC ANEURYSM.

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(*Concluded from page 536.*)

3. *Tracheal tugging may be present when many other physical signs and symptoms are absent.*—Examples to prove the truth of this statement are afforded by the following cases:—

CASE 17.—J. T—— (Dr. Molson's patient).—This was a Norwegian sailor, aged thirty-one, admitted on Dec. 24th, 1889, complaining of chills, pain in the left side of the chest, and cough. He was in good health and doing hard work up to six months ago, when he began to cough, and this was soon followed by persistent and severe pain in the left side of the chest. No night sweats or other evidence of phthisis. There was a history of chills and headache, and on admission his temperature was 100·2°; pulse 90; respiration 30. A frothy expectoration, at no time viscid or rusty, accompanied the cough; a few streaks of blood were seen in the sputum on one occasion. This feverish attack lasted a few days, and he recovered from all the symptoms but the cough and the pain in the side.[1] Physical examination of the chest was entirely negative, but tracheal tugging was well marked. On Jan. 29th the left vocal cord was found to be fixed in the middle line and devoid of movement. He remained in the Montreal General Hospital until the spring without the development of any further evidences of aneurysm. A few days ago (Dec. 1st, 1890) Dr. Molson was kind enough to inform me that he had found this man living in the city, and that well-marked physical signs of transverse arch disease were present.

In Case 4, already cited, the only physical signs were slight dulness and loss of vocal resonance at the left front, together with weak breathing at the base of the left lung. Tracheal tugging afforded strong additional evidence of pressure on the left bronchus.

4. *Tracheal tugging does not occur in aneurysms which do not involve the transverse arch.*—In eight cases tracheal tugging was never found. In but one was there evidence of disease of the transverse arch. Two necropsies were obtained, but in neither was there pressure upon the left bronchus.

CASE 18 (Dr. MacDonnell's patient).—J. K——. This case has already been reported in detail.[2] There was no tugging. The aneurysm was on the transverse arch, but

[1] Influenza was epidemic at the time.
[2] New York Medical Journal, Oct. 18th, 1890.

situated quite behind the point where the arch crosses the bronchus. Dr. Johnston, who made the necropsy, was able to demonstrate the left bronchus moving quite freely under the aorta. The aneurysm involved the third part of the arch, and caused death by rupturing into the posterior mediastinum, causing pressure on the left vagus. Both vocal cords were paralysed.[3]

CASE 19 (Dr. Wilkins' patient).—L——. No tracheal tugging. Symptoms and physical signs point to aneurysm low down the thoracic aorta. Vomiting, epigastric pain. Visible pulsation in upper epigastrium.—*Necropsy:* Fusiform aneurysm of aorta above and below the diaphragm. Hæmorrhage into both pleuræ.

In the next series of four cases the patients were lost sight of after leaving hospital. In these, however, the symptoms and physical signs pointed to aneurysm elsewhere than the transverse arch.

CASE 20 (Dr. MacDonnell's patient).—James S——. No tracheal tugging. Distinct evidences of aneurysm of the innominate. Dislocation of the sternal end of the clavicle preceded by attacks of the most severe pain in the shoulder, right side of the neck and head, and behind ear. No evidence of pressure on left bronchus, the breathing specially noted as being quite free. Right pupil smaller than left.

CASE 21 (Dr. MacDonnell's case).—R——. No tracheal tugging. Innominate aneurysm. A prominent area to right of mid-line under the sterno-clavicular articulation; dull on percussion. Partial dislocation of the sternal end of the clavicle. Wasting of the right arm. Began with pain in the right arm, shoulder, neck, and behind right ear. No difference in radial pulses. The superficial veins on the right side of the chest become varicosed whenever coughing occurs.

CASE 22 (Dr. MacDonnell's patient).—David J——. This case has been already reported in detail.[4] The aneurysm was evidently in the descending aorta. There were never any symptoms specially pointing to the transverse arch. The airless condition of the left lung was probably due to direct pressure of the third part of the aorta or of the thoracic aorta, both of which were probably enormously enlarged.

CASE 23 (Dr. MacDonnell's patient).—W. H. B——. Aneurysm of the innominate. Pulsating prominence under the inner end of the right clavicle. Pain in the right side of the head, behind the ear, and down the arm. Complete obliteration of the subclavian and carotid arteries of the right side. No laryngeal paralysis.

The next two cases afford negative evidence. Case 24 is probably an aneurysm of the first part of the arch. No laryngeal examination was made. In Case 18 we have laryngeal paralysis without tracheal tugging.

CASE 24 (Dr. MacDonnell's patient).—Joseph C——. Probably an aneurysm of the first part of the arch. Radials unaffected. Visible pulsation; dull area; systolic murmur and thrill at the junction of the second right costal cartilage with the sternum. The dull area extends an inch to the left and two inches to the right of the mid-line of the chest. No laryngeal symptoms, but brassy cough. This patient had been sent from the country for consultation, and his career after leaving the hospital is unknown to me.

CASE 25 (Dr. MacDonnell's patient).—John A——. A case of aneurysm of the innominate or of the first part of the aorta. The pain was in the right side of the chest. Inability to lie upon the left side owing to cough and dyspnœa. Enlargement of veins of upper chest and left side of abdomen. Pupils unaffected. Local bulging at second rib and right side next the sternum. Paralysis of left vocal cord. No evidence of interference with the left bronchus.

5. *Direct pressure on the trachea does not cause tracheal tugging.*—A clinical observation above mentioned affords evidence upon this point. The patient was the subject of Hodgkin's disease. A large thoracic gland behind the sternum pressed upon the trachea so as to cause stridor of the breathing, and to give rise to danger from suffocation. The projection of the tumour into the lumen of the trachea could be distinctly seen with the laryngoscope.[5] If aneurysms pressing directly against the trachea could produce tugging, then it would become an accompaniment of aneurysm of the innominate, which we can readily understand when we consider the relations of that artery to the trachea. In all cases I have seen in which aneurysm of the innominate could fairly be diagnosed tugging was absent. Tugging would therefore prove a valuable assistance in arriving at a decision as to the locality of an aneurysm. Those affecting the innominate artery are sometimes treated surgically, but such measures as ligature would hardly be adopted in full knowledge of the fact that the arch was involved. Here is a case in point, the particulars of which I take from one of the journals. A man entered hospital with symptoms of innominate aneurysm. Ligature of the carotid and subclavian was advised by the members of the surgical staff. The patient declined to submit to any operation. A few months later he died suddenly. It was found after death that not only did the aneurysm involve the innominate, but also the transverse arch. Tracheal tugging might here have pointed out the inutility of surgical interference.

These are the proofs which the clinical experience of our hospital enables me to bring forward in support of the statements I have made as to the great value of this physical sign in the diagnosis of aneurysm. A few more points require consideration. Tracheal tugging is a very early sign in the history of the case. In all the cases in which it was present it was detected on admission. I can find no history of its gradually appearing after admission. And as compared with laryngeal manifestations, it appears still more valuable, since the tug can be detected by anyone accustomed to practise physical examinations; while a reliable opinion as to paralysis of the cords can be given by a specialist or a person thoroughly skilled in the use of the laryngoscope. The two symptoms exist together in most instances. One case cited affords an explanation of how there may be laryngeal paralysis without tugging. Here (Case 18) the tumour was situated beyond the left bronchus and pressed it from behind instead of from above, thereby causing the weak breathing at the left base. The vagus was not subjected to pressure until the sac burst into the posterior mediastinum, pressed upon the nerve, and caused the adductor spasm which nearly proved fatal. In another case (25) there was absent tugging and laryngeal paralysis; but here, as there was no post-mortem examination, it would be useless to guess at an explanation. In another case there was tugging and no laryngeal paralysis. Here, again, there was no necropsy.

In conclusion, I trust that those who read this imperfect attempt at establishing the value of a new physical sign will search for its presence amongst the cases within their observation and bring forward their results, whether they support the views I have expressed or not.

Montreal.

[3] Vide Transactions of the Pathological Society of London, vol. xxiii., p. 66, vol. xxiv., p. 42. Cases are here recorded by Baumler and by George Johnson where pressure on the vagus and recurrent on one side produced paralysis on both sides.

[4] American Journal of the Medical Sciences, March, 1888; also June, 1890.

[5] Montreal Medical Journal, Nov. 1890, p. 349.

ON KOCH'S TREATMENT.[1]

BY DR. McCALL ANDERSON,
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THE extravagant laudation with which the treatment of tubercular diseases by means of Koch's fluid was ushered in has given place in many quarters to an equally absurd depreciation of its merits. Considerable practical experience of its results having been gained in the hospitals of Glasgow, it is right that we should take stock of our knowledge and compare notes with one another, in the hope that we may arrive at just conclusions. But as our experience is necessarily a short one, it follows that whatever views may be expressed must be taken as provisional, and liable to modification when a larger number of cases has been dealt with, and when they have been under observation for a longer period of time. Before bringing any cases under notice, it may be well to indicate, in a general way, some of the conclusions which, I think, may be derived from them. When a patient is inoculated for the first time with an appropriate dose of the fluid, there result, in typical cases—(1) elevation of temperature, (2) a series of other constitutional symptoms, and (3) local reaction. But, in a considerable number of

[1] Being an abstract of remarks at the opening of a discussion at the Glasgow Medico-Chirurgical Society, March 13th, 1891.

instances, one or more of these sets of symptoms may be absent, or only present in a minor degree. Thus it is not uncommon to find decided reaction at the diseased part with little, if any, constitutional reaction and fever. Or there may be an absence of fever, but other well-marked constitutional symptoms; or local reaction may be alone observed. But, as a rule, the more pronounced the fever and other general symptoms the more decided is the local reaction, and *vice versâ*.

With regard to the body heat, the first effect of the inoculation in many cases is to produce a temporary lowering of the temperature, but this soon gives place to a rise, which reaches its maximum generally within twelve hours—sometimes not until the following day; or there may be a primary rise of temperature the day after the inoculation, and a secondary one the following day, which may even be greater than the first. First inoculations are likely to lead to a slower rise and one of longer duration than subsequent ones, in which the tendency is towards a rapid rise and an equally rapid fall of temperature. It is not, in my opinion, desirable to encourage an elevation which exceeds 104° F., and in this connexion it must be borne in mind that an inoculation frequently produces a greater rise than the preceding one, although the dose is not increased. The other constitutional symptoms observed varied in different cases, but the most common were chilliness or rigors, headache, pains in the back and throughout the body, sickness, vomiting, and prostration. In two cases what has been described as a measly, but which is really a roseolous, rash made its appearance, but in no instance was a scarlatiniform eruption induced. As regards the local reaction, we can best observe it when the lesion is on the surface, although the symptoms arising when internal organs—such as the lungs—are affected, leave little room for doubt that similar changes take place in them. The first result—in a case of lupus, for example—is the occurrence of redness and swelling which are not limited to the affected part, but spread to the skin in the vicinity, which often assumes an erysipelatoid appearance, and a serous exudation takes place from the diseased surface which dries into crusts. Each succeeding inoculation is followed by less inflammation, and when serum ceases to exude, the crusts become very dry, contract, and finally fall off, leaving a dry, scaly, rosy surface, the cicatrix being smooth, and less pronounced than after any other local treatment with which I am acquainted. When any isolated lupous nodules lie embedded in cicatricial tissue, the inoculations may fail to destroy them, the poison being apparently unable to get at them; and what may be done under these circumstances is to penetrate them with a pointed stick of caustic, and then to inoculate again, when a certain amount of reaction ensues, generally making short work of them.

From what I have said it may be inferred that, when the lupous nodules are confluent, the result is better than when they are discrete, and the best cases of all are those in which the whole patch is in a state of ulceration; that is to say, the worse the case the more brilliant is likely to be the result. But, while tuberculin is often in a position entirely to destroy the existing disease, it seems to have little influence in the way of preventing relapses, which must be warded off by endeavouring to improve the general health, especially by giving anti-strumous remedies—above all, cod-liver oil—just as we have been in the habit of doing formerly in connexion with the use of local applications. A patient who cannot take cod-liver oil in full doses—say, to the extent of 3 oz. daily—has a poor chance of being permanently cured. As regards phthisis, the time is much too short to entitle one to formulate very positive conclusions, but I am quite sure that it is undesirable to treat advanced cases in this way. Indeed, I have no doubt that such treatment is dangerous; or, at any rate, it is very apt to leave the patient in a worse plight than before. But there is equally little doubt that if we get a case at the very commencement, before excavation, with a very limited amount of lung tissue involved and the general health not being undermined, the best results may often be obtained. In considering the propriety of carrying out this treatment in a given case of phthisis it must never be forgotten that the extent of the disease is almost invariably considerably greater than the physical signs would seem to imply. Indeed, in most of the patients treated, moist râles, with or without evidences of consolidation, have made their appearance at parts where, previous to the commencement of the inoculations, there were no traces of pulmonary mischief. These new physical signs cannot certainly *always* be attributed to the development of new centres of disease, the result of setting free tubercle bacilli to work mischief elsewhere, because they sometimes appear immediately after the first inoculation.

With regard to diagnosis, there can be no doubt that Koch's discovery is a most valuable one, because, although it cannot be asserted that the fluid exclusively attacks tuberculous tissue, it is *certain* to inflame parts which *are* tuberculous when the appropriate dose is reached, and it undoubtedly often ferrets out quite unsuspected foci of disease.

As to the dose, I think it may be laid down as a good rule that not more than one or two cubic millimetres of the 1 in 100 dilution should be given as a first injection, especially if internal organs are involved, or if the patient is weakly; but the appropriate dose varies in different persons, just as we find in connexion with the administration of medicinal substances. It is much better to start with a dose which may fail to yield any result than with a large one which produces violent local and constitutional reaction, it being always safer to feel one's way at the outset. We are all cognisant of the fact that the system soon becomes habituated to the use of certain drugs, so that after a while doses may be taken with impunity which might have poisoned the patient at the outset. And there can be no doubt, with reference to tuberculin, that a remarkable tolerance is speedily established; so much so, that we can often ultimately give an inoculation without any result one hundred times stronger than that which at first produced well-marked local and general reaction.

When I commenced to inoculate patients I made use of the syringes recommended by Koch, and with which we are all familiar; but I found that they were somewhat troublesome and uncertain in their manipulation, especially when not manufactured with the greatest care. So that most of my inoculations have been made with an ordinary subcutaneous syringe, graduated for the purpose, which has none of the drawbacks of the other, and from the use of which I have experienced no inconvenience, while inflammation at the seat of puncture has never occurred.

In conclusion, I may be permitted to say this much, at least, with regard to tuberculin, that, whatever the ultimate verdict of the profession may be with regard to the scope of its utility in diagnosis and treatment, it is possessed of most remarkable and unique properties; and no one who has had much practical experience of it, can grudge the encomiums and the honours which have been showered upon its discoverer.

[Dr. Anderson concluded by showing a series of cases, upon the treatment of which the above remarks were based.]

ON ADDISON'S DISEASE.

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THE following cases came under my care in the Salford Royal Hospital:—

CASE 1.—William A——, aged nineteen, was admitted on July 23rd, 1889. Family history good, no phthisis. The patient had suffered from no previous illness. In December, 1888, he noticed his face becoming darker in colour; the hands next became discoloured, and subsequently the dark hue spread over the whole body. The abdomen has been darker than the rest of the body as long as the patient can remember. About a month ago he noticed that he was getting thinner, and for the last three weeks he has vomited every day. He has had pain in the abdomen from time to time.—Present condition: The patient looks fairly healthy, weighs 101¾ lb. The colour of the whole skin is a dark yellowish-brown, like that of a mulatto; the scrotum and penis are of a peculiarly dark-slate or indigo tint. The nipples also are darker than the rest of the skin. With these exceptions the colour is fairly uniform over all the body. The inner margins of the lips are bluish, and there are small scattered patches of pigmentation on the palate. On each side the buccal mucous membrane shows a horizontal band of pigmentation corresponding

to the meeting line of the teeth. The cervical and submental glands are slightly enlarged. The pupils are rather large. The superficial reflexes are normal; the knee-jerk is absent. The pulse (76) is small. The temperature is normal. There are no physical signs of phthisis. Whilst in the hospital the patient had repeated attacks of vomiting, and occasionally of diarrhœa, the bowels being constipated in the intervals. For a time he felt much better, and was free from sickness. He gradually lost weight, however (being now 94½ lb), and looked emaciated. On several occasions he had severe pain in the abdomen. The urine was of normal appearance and amount, sp. gr. 1012, acid, no albumen, no excess of chromogens; urea averaged 280 grains in the twenty-four hours. The vomiting returned, and occurred at frequent intervals, the patient becoming much weaker. Death from asthenia took place on Oct. 16th, 1889. Two days before death the blood was examined; the proportion of white corpuscles to red was not increased; the red were numerically decreased 72 per cent., otherwise there was no abnormality. The patient was moderately anæmic towards the last, but not to any great extent. — *Necropsy:* The external appearances were as already described. Internal appearances: Heart normal. The pleura showed signs of old adhesions. The lungs were free from tubercular deposit. The anterior mediastinum contained several small glands, undergoing calcification, situated at the bifurcation of the trachea. The liver and kidneys were normal. The glands of the intestines were prominent. There were no pigmentary patches in the alimentary tract. The right adrenal was nearly double the normal size; it was irregular in shape, and the surface was nodulated. The left adrenal was as large as a kidney bean; it was caseous, and contained pus in a broken-down cavity at the lower part. The solar plexus and semilunar ganglia showed no macroscopic changes. In the upper part of the abdomen the retro-peritoneal glands showed signs of incipient caseation. The spleen was friable, but otherwise healthy. The membranes of the brain were hyperæmic; they showed no pigmented areas. The brain substance was normal. The adrenals and semilunar ganglia were removed for microscopic examination.

CASE 2.—Annie B——, aged eighteen, unmarried, a tailoress, was admitted on Sept. 21st, 1889. Family history: Father healthy; mother delicate; two sisters both weakly; one has lupus of the face, and the other has had convulsions (epilepsy?); only one brother, an infant, who is healthy. Personal history: Patient has never been strong; she had bronchitis and convulsions when a child. Has been subject to attacks of vomiting as long as she can remember, for which she has stayed at home from time to time for a week or more at once. In June last she had a sick headache of unusual violence, after which she felt excessively prostrate, and for a time was unable to work. At this date a change in her complexion was first noticed. She continued to work until the middle of August, when she went away for a change of air; on her return, being still poorly, she was admitted into hospital. Present condition: The patient is a small-made girl of childish appearance, fairly well nourished, but says she has gone thinner lately. She weighs 87lb. The skin is uniformly dark without patches, except round the eyes and nipples, on the temples, and over several of the vertebral spines, where it is darker; in the last-named position evidently from friction against the clothing. There is no pigmentation of the tongue or of the lips; but there is a line corresponding to the meeting of the teeth along both sides of the buccal mucous membrane, as in the last case. The appetite is good, but the patient feels weak. Pulse 72, very small; temperature normal. She has no pain. The bowels are regular. She has not menstruated since June last. The lungs and heart are normal. Superficial reflexes normal; knee-jerk absent. For a time the patient improved. The vomiting ceased for five weeks, and she gained in weight, being now 89½ lb. The urine was of medium colour, sp. gr. 1013, acid, no albumen, no excess of chromogens. Average amount forty-eight ounces, and average excretion of urea 248 grains, in the twenty-four hours. On Nov. 4th she complained of severe frontal headache, and felt very sickly, the pulse being excessively small and feeble. The patient was now decidedly anæmic. The anæmia was not only perceptible in the palpebral conjunctivæ, but at the folds of the skin at the base of the fingers when interposed between a bright light and the eye of the observer. From this time she rapidly got worse; she vomited at frequent intervals, and was very cold to the touch. She also became much darker in colour, and complained of extreme exhaustion. The respiration was slow, and the radial pulse was imperceptible. Death from asthenia took place on Nov. 21st, 1889. For a few days before death the breath had a strong "ethereal" odour. Two days before death an abnormal amount of indican appeared in the urine; 880 c.c. were treated after Jaffe's method, and yielded 0·0047 grm. of indigo. Continuous observations enable me to state that the amount of indican in the urine before this date was never above normal. On Oct 15th the blood was examined with the hæmocytometer. The red discs were in normal percentage; the white corpuscles were relatively increased, being 1 to 250. (I am indebted in both cases to Mr. Percy Stocks, late house surgeon to the hospital, for the examination of the blood with the hæmacytometer.)—*Necropsy:* The external appearances corresponded with those observed during life. Internal appearances: The heart showed no pathological changes. In the apex of the right lung were two small caseous nodules, otherwise the lungs were healthy. The intestines were normal, with the exception of some small brownish patches of pigmentation on the peritoneal coat. The liver was small and pale, otherwise healthy. The spleen was small and firm. The kidneys were pale. The adrenals were much enlarged, especially the left, which showed signs of breaking down. No macroscopical changes were observed in the semilunar ganglia and solar plexus. The uterus was of the infantile type. On the upper part of the posterior wall of the vagina, behind the cervix uteri, were small patches of pigmented mucous membrane. The external genitals were like those of a young child. The ovaries were small and showed one or two cicatrices, but not of recent formation. The adrenals and the semilunar ganglia with some of the adjacent nerves were removed for microscopical examination.

I am indebted to the kindness of my friend, Dr. Arthur Robinson, of Owens College, for his valuable assistance in preparing and examining sections from the semilunar ganglia from the above cases, together with the ganglia from a case of about the same age, not of Addison's disease, for control observations. The exhaustive investigations made by Dr. Robinson establish beyond question the accuracy of the conclusion he has arrived at. He was also good enough to prepare a number of sections of skin and mucous membrane from the same cases.

Dr. Robinson's report.—At Dr. Dixon Mann's request I prepared and examined three pairs of semilunar ganglia. The first pair was from a man who had died from Addison's disease. These ganglia had been placed in methylated spirit. I transferred them to Müller's fluid and afterwards back again to spirit, but evidently the first spirit in which they were immersed had produced such an effect that the sections made from them did not stain properly when subjected to Weigert's hæmatoxylin method. The second pair of ganglia was from a girl who died from Addison's disease and the third pair from a man affected with phthisis. Both the latter pairs of ganglia were placed first in Müller's fluid and afterwards in methylated spirit. When the hardening process had been completed in the spirit all the ganglia were transferred first to absolute alcohol, thence to turpentine, and finally to paraffin melted at 55·5° C. The embedded ganglia were cut into sections by means of the rocking microtome, and the paraffin was removed from the sections by passing them through warm turpentine into absolute alcohol, thence into methylated spirit, and afterwards into 70 per cent. spirit. The sections were transferred from the 70 per cent. spirit to the various staining solutions that were used, sections from each case being passed through exactly the same solutions. The sections were stained in six different ways: (1) By Weigert's method; (2) in aniline blue black; (3) in a 4 per cent. solution of methyl blue, after which they were washed in a saturated solution of picrate of ammonia; (4) in borax carmine; (5) in borax carmine, and after dehydration cleared in oil of cloves containing picric acid in solution; (6) in hæmatoxylin. When the staining was completed it was found that all the ganglia presented exactly the same microscopical appearances. There was no excess of fibrous tissue either in their capsules or in their interiors. There was no excessive pigmentation of the ganglion cells. The ganglion cells were not shrunken. The nuclei and the processes of the ganglion cells were distinct. The nerve fibres passing through the ganglia showed no traces of degeneration. The capsules of the ganglion cells presented all their usual features. In

short, so far as the implication of the semilunar ganglia in the production of Addison's disease is concerned these cases presented negative evidence only, nothing abnormal was found in the ganglia. The adrenals from the two cases of Addison's disease were examined with the following result: The normal tissue was almost entirely replaced by tubercular deposit partially broken down. Tubercle bacilli were sought for, but none were found.

It will be seen from the description given that these two cases are typical examples of Addison's disease, uncomplicated by other derangement. They may, therefore, serve as a basis for the discussion of the morbid physiology of the disease. Whilst desirous of avoiding as far as possible ground already covered, it is necessary to formulate concisely the views held with regard to the pathology of the disease. They are three. First, that the symptoms are immediately due to disease of the adrenals. Second, that they are caused by certain changes in the semilunar ganglia or in the abdominal sympathetic nerves, which may be primary or may be caused by mechanical pressure from a neighbouring morbid growth, but are more frequently referred to extension of slow inflammatory processes from the adjacent adrenals. In the latter case the adrenals are still to be regarded as the initial seat of the disease. Third, that they arise from the presence of a toxic agent or agents in the blood. According to this view, also, disease of the adrenals would probably be the first link in the morbid chain. Some pathologists consider that the specific character of the morbid processes which take place in the adrenals is the true determinative of the symptoms. Wilks[1] holds that infiltration of the adrenals with an albuminous material, which subsequently may undergo caseation or cretification, is the only pathological change in them which can occasion Addison's disease. It is supposed by some that slow inflammatory processes thus set up spread to the neighbouring semilunar ganglia. Greenhow[2] supports this view, by which he accounts for the absence, for the most part, of the symptoms of Addison's disease when the adrenals are the seat of hæmorrhage or of malignant deposit, these processes being non-inflammatory.

In the two cases narrated, the changes in the adrenals were of the kind usually met with after death from Addison's disease. The semilunar ganglia, however, presented no abnormality. Microscopic sections from the ganglia of these two cases could not be distinguished by expert observers from sections of normal ganglia. Many pathologists at the present time refer the symptoms of Addison's disease exclusively to morbid changes in the semilunar ganglia. Kahlden,[3] after critically reviewing the reported cases, and substantiating his deductions by results obtained from two cases of his own, has no hesitation in localising the disease in the semilunar ganglia. He very properly declines to accept any but skilled examination of the ganglia as evidence, and further suggests, to make the evidence valid, that it should be founded on direct comparison of the ganglia under examination with normal ganglia from individuals of like age. In my two cases these precautions were fully carried out. I emphasise this as it is obvious that some alteration of nerve function offers the only reasonable explanation of the symptoms under discussion, and the semilunar ganglia, from their anatomical relations, are naturally the organs on which suspicion rests. In many instances this suspicion has been verified: the ganglia have been found both macroscopically and microscopically changed. Disease of the semilunar ganglia would account fairly well for most, if not all, of the symptoms, although the exact mode in which interruption of their functions could occasion some of the symptoms is not quite clear. Still the assumption of a causal relation is justifiable, and if the nerve cells of the semilunar ganglia were atrophied in every case of Addison's disease, its pathology would be simplified. When we find, however, in a number of cases of Addison's disease, in which all the cardinal symptoms were present, that the semilunar ganglia are intact, it is obvious that structural changes in these organs do not constitute the essential factor of the disease. It is not to be forgotten, moreover, that more or less pigmentation, atrophy, and other morbid appearances in the semilunar ganglia are seen under many pathogical conditions apart from Addison's disease. Hale White's[4] observations on this subject are very remarkable. Of thirty-three semilunar ganglia, taken indiscriminately from persons dying from various diseases, three were from children and were quite normal. Of the remaining thirty, the nerve cells were normal in six; all the rest showed more or less degeneration of the cells, which in many cases were reduced to minute masses of non-nucleated granular pigment, lying free in the middle of the capsules. A few of the sections were crowded with leucocytes, for the presence of which no cause could be ascertained; the appearance of the section had no relation to the cause of death. The inference drawn is that the semilunar ganglia in the lower animals and in the young human subject are functionally active. In the human adult the nerve cells degenerate and are functionally inactive, but the nerve fibres always retain their structure and function. As the evidence afforded by the semilunar ganglia in my cases was negative, it becomes necessary to discuss the claims of the adrenals to the position of causal agents. These bodies are pathologically changed in such an overwhelming majority of cases of Addison's disease that it is impossible to regard the conjunction as a mere coincidence. There is evidently a close relation; whether one of cause and effect is an open question. Many modern pathologists have ceased to regard disease of the adrenals as a possible immediate cause of the symptoms of Addison's disease. The very ambiguity of the physiological functions, and even of the anatomical structure of the adrenals, makes it so much the easier to eliminate them from consideration. They are regarded as ductless glands, as organs belonging to the nervous system, as partaking of both characters—the medullary substance being a network of nerves and the cortex a vascular and glandular structure,—and, finally, as having solely embryonic functions. The most recent investigations tend to show that the adrenals are functionally active in adult life, at least in some of the lower animals. Tizzoni[5] observed a tendency to redevelopment in injured adrenals, and even after they had been removed. In some more recent experiments[6] on rabbits he removed one adrenal only in each animal, some of the animals living upwards of a year. After death he found infiltration of the pia with small round cells, especially in the neighbourhood of the vessels. There was also a fibrinous exudation in the subarachnoid space, and important changes in the floor of the fourth ventricle, the grey substance of which was in some places replaced by these small cells. He further found degeneration in the peripheral nerves. Tizzoni attributes these changes to alteration in the bloodvessels. Stilling[7] divides the adrenals into glomerular and fascicular zones. In animals the glomerular zone contains cells charged with pigment, which are very like the pigment cells of the choroid. In man the pigment is found between the cortical and medullary substances. The pigment cells are star-like in appearance, and they lie outside the walls of the capillaries. The pigment is limited to these cells; the gland cells themselves contain no pigment. The deepest pigmentation of the adrenals occurs in those animals which are piebald; in such animals there are often spots of pigment in the throat, but all the internal organs, except the adrenals, are free from pigmentation. Another series of experiments made by Stilling[8] tend to disprove the view that the adrenals are only active during embryonic life. In a number of young rabbits one adrenal respectively was removed, and the animals were allowed to live for several months after the operation. On examination after death, the remaining adrenal was found considerably hypertrophied, due, as Stilling considers, to compensatory hypertrophy, one gland having to perform the duties of two. When one of the adrenals was incompletely destroyed, the fragment that remained had a tendency to develop, sometimes to the size of the normal adrenal. After removal of an adrenal, accessory adrenals frequently develop on the cava or in the neighbourhood of the kidneys.

Chemical examination of the adrenals reveals in them the presence of certain colouring matters, the nature of which is not yet determined. Vulpian,[9] Arnold,[10] and others observed peculiar colour reactions with solutions obtained from the adrenals, indicating the presence of a substance, or substances, not found in the other tissues of the body. Mac Munn[11] detected hæmo-chromogen, which he regards as an effete blood product, the inference being that the adrenals

[1] Guy's Hospital Reports, 1862. [2] On Addison's Disease.
[3] Virchow's Archiv, vol. cxiv., 1888.
[4] Journal of Physiology, 1889.
[5] Gazz. degli Ospitali, 1884. [6] Arch. per le Scienza Med., vol. x.
[7] Virchow's Archiv, Bd. cix. [8] Ibid., Bd. cxviii.
[9] Comptes Rendus, 1856. [10] Virchow's Archiv, Bd. xxxv.
[11] British Medical Journal, 1888.

are employed in its elimination. According to this view, if the adrenals are diseased there ought to be evidence of incompletely metabolised pigment in the excretions. In two cases of Addison's disease Mac Munn found in the urine a derivative of hæmatin, which he names "urohæmatoporphyrin." This substance may be found in the urine under two conditions: (1) when excess of effete hæmoglobin or of histohæmatin is present in the circulation, the blood-metabolising glands being healthy but incapable of dealing with the excess of pigment; (2) when the pigment is not in excess, but the blood-metabolising glands are diseased, as is assumed to be the case in Addison's disease. In this case other effete or abnormal products are assumed to be present in the blood, and to exercise a toxic effect on the organism, and so produce the asthenia and other symptoms. Krukenberg,[12] amongst other products, extracted from the adrenals a chromogen which possesses many properties in common with pyrocatechin. The coloured derivatives of this chromogen, with one exception, are of a very fugitive character, much more so than the pigment deposited in the skin in Addison's disease. Krukenberg considers that the identity between the above-mentioned chromogen and pyrocatechin completely excludes the possibility of any chemical relation existing between the pigment obtained from the adrenals and that deposited in the rete cells in Addison's disease.

(To be continued.)

CASES ILLUSTRATING THE UTILITY OF LANG'S KNIVES IN EFFECTING DIVISION OF ANTERIOR SYNECHIÆ.

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A FEW months ago Mr. LANG of Moorfields introduced to the profession, through the Ophthalmic Hospital Reports, some knives which he had found useful in his practice. Their special design was to assist in dividing the adhesions which produce an anterior synechia in the eye. They do this by allowing the division to be made whilst the aqueous is still retained in the anterior chamber. One knife has a sharp point, with which an incision is made in the cornea; and on its being withdrawn a second knife with a blunt point is inserted through the hole made by the first sharp-pointed knife. The two knives being of exactly the same size, one fits well into the opening which has been made by its predecessor. This admits of almost any adhesion being divided by the blunt-pointed knife, the aqueous being retained by it. I have recently had under my care in the Royal Cornwall Infirmary two cases which well illustrate the usefulness of these knives.

CASE 1.—A. B——, a girl aged fourteen. About a year ago she ran the prong of a fork into her right eye. The fork wounded the lens and cataract ensued. When she came under my care the larger portion of the cataract had been absorbed. In the end, however, a large piece of opaque capsule and some débris of the lens remained behind. This completely blocked up the pupil, and was, moreover, adherent (1) to the back of the cornea, just where the wound was originally made by the entering prong of the fork; (2) it was also adherent to the iris at its upper part and at the sides, the lower portion of the iris being quite free from adhesions. All vision was of course obstructed by this capsule, and even in October, 1890, the eye was commencing to diverge. She is a good-looking girl; therefore it was necessary that something should be done to clear away the opacity and so, in all probability, remove the divergent strabismus. The first thing to do evidently was to free the capsule from the back of the cornea. This I attempted with the ordinary appliances, but failed to accomplish it in consequence of the escape of the aqueous. The tension of the eye and of the cicatricial band became so altered that I could not get the band to present any resistance to the knife. I had also to remember that if I used too much force I might easily have an escape of vitreous. Subsequently, however, on using Lang's knives and retaining the aqueous there was not the slightest difficulty in freeing this band from the back of the cornea. After allowing the eye to rest for a week or ten days I made an incision into the cornea as for iridectomy, and with the iris forceps withdrew the capsule from the anterior of the eye. It was, however, so firmly adherent to the iris that I was compelled to withdraw the iris through the wound and then to snip a portion of it off. The ultimate result is very good, and I discharged her from the infirmary on Nov. 12th. Probably now that light is admitted to the eye, it will no longer diverge.—Feb., 1891: I have just seen this patient, who has an excellent eye; but the divergence continues. This of course can be rectified.

CASE 2.—C. D——, a worker at a tin smelting works, was hit in the left eye twelve months ago by a splutter of molten tin on the lower segment of the cornea. The burn was of course very slow to heal, and ultimately the resulting ulcer opened the anterior chamber, and the iris became adherent to the back part of the scar. On Oct. 25th, 1890, it was impossible to see the exact position of the synechia, as it was obscured by an opacity of the cornea, which extended over a larger area than was originally represented by the scar of the ulcer. The pupil was excentric and oval, and displaced downwards. The upper portion of the iris was seemingly much stretched. He had constant circumorbital pain on each side of the head and face. The right eye was on several occasions inflamed, and he described it as having watered very much. No doubt it was the subject of sympathetic irritation. Ophthalmoscopic appearances of it were natural. Right eye, $V=\frac{6}{6}$; left eye, $V=\frac{6}{60}$. He was admitted into the Cornwall Infirmary on Oct. 26th, 1890, with the object of having the anterior synechia detached from the back of the cornea of the left eye. This I was fortunately able to do by the aid of Lang's knives, though it was haphazard work, as I could not see the exact position of the synechia on account of the opacity of the lower segment of the cornea. No aqueous escaped, and on Oct. 28th he expressed himself as being quite free from pain. Indeed, he described the pain as having entirely ceased immediately after the operation.—Oct. 30th: On testing I now found the vision of the right eye $\frac{6}{9}$, as contrasted with $\frac{6}{60}$ on the day before the operation. Atropine has been instilled into the left eye morning and night, which resulted in the pupil becoming perfectly sound and well dilated in all parts of its circumference. The opacity of the cornea is also largely clearing away, so as to allow a sight of the lower portion of the iris. Nov. 2nd: He insisted on being discharged. He has since called upon me, and the improvement continues. This case is interesting as showing the injurious effect on the sound eye of an anterior synechia. For here is a case in which vision was only $\frac{6}{60}$, yet after the division of the synechia it almost at once becomes improved to $\frac{6}{9}$. I do not say that the division of the synechia could not have been done without using Lang's knives; yet they undoubtedly rendered it much more easy of accomplishment, and they have moreover allowed me in the second case to restore to its owner an unmutilated eye—for the only alternative, had I failed, would have been an iridectomy. As it is now, the patient has a perfect pupil, and this, with perhaps a gradual improvement of the corneal opacity, will give him a fairly useful eye.

[12] Virchow's Archiv, Bd. ci.

ON A METHOD OF APPLYING WEIGHT EXTENSION IN THE TREATMENT OF OBLIQUE FRACTURES OF THE TIBIA.

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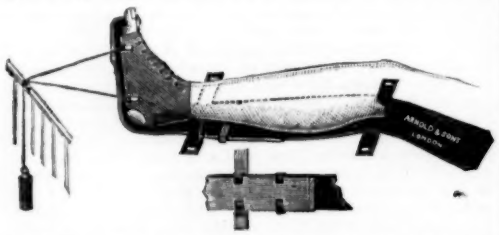
THAT oblique fractures of the tibia often present great difficulties in treatment is, I think, a proposition which no one will deny; and few will maintain that the methods of treatment in ordinary use are satisfactory in bad cases. To prevent the upper fragment of the tibia riding over the lower extension is necessary in some cases, and three forms have been used:—(1) Extension by means of a screw attached to a movable foot-piece; (2) extension by means of elastic bands; (3) weight extension. Undoubtedly of these the equable steady traction of a weight has the greatest advantage, both mechanically and physiologically. Hitherto the great difficulty in using weight extension has been the

absence of a satisfactory method of applying it to the leg. Messrs. Arnold and Sons have made, at my request, a splint which, I think, meets all requirements, and I have used it in several difficult oblique fractures with excellent results—results which are as good as those obtained in ordinary transverse fractures. The splint, as shown in the engraving, is similar to a Neville's back splint, but has a sliding foot-piece. The "purchase" for the extension is got from a padded leathern "spat," which is laced on to the foot. In applying the splint the spat is placed behind the heel, and the foot and leg are fixed in the usual manner, care, however, being taken that the bandage does not interfere with the free play of the foot-piece. The spat is then laced up, the splint swung from a cradle, and side-splints applied. Next, a weight of from 4 lb. to 8 lb. is



attached to the spat by means of a cord and pulley. In the engraving the cord is seen to be attached to two pairs of rings, but in practice it will be found better to attach it only to the lower or posterior pair, as then the line of traction is directly in the line of the long axis of the limb, and so the heel is kept well down against the foot-piece and the fragments are made to drop into good position.

To illustrate the above I will quote one case in which I used this method while senior house surgeon at St. Bartholomew's Hospital.

W. B——, aged forty-two, was admitted into the Harley ward, under the care of Mr. Willett, on Aug. 11th, 1890, suffering from compound fracture of the left leg. The tibia was very obliquely fractured about its middle third, and the sharp end of the upper fragment was protruding about 1½ in. through the skin. Attempts at reduction under an anæsthetic failed until the tip of the upper fragment had been sawn off. The wound was irrigated with corrosive sublimate lotion (1 in 2000) and dressed with sal alembroth gauze and wool, and the leg put up on a Neville's splint and side splints, and swung from a cradle. No constitutional disturbance followed, and the leg was not interfered with for fourteen days, when on the removal of the dressings the wound was found to have nearly healed, but the position of the fragments was far from good; in fact, the upper overlapped the lower by an inch, and it was not found possible to keep them in good position without extension. The splint above described was then applied with a weight of 8 lb., and the fragments came into good position within twenty-four hours. The weight was reduced to 4 lb. twelve days later. On Sept. 11th the fracture was found to be united in excellent position, and the wound healed, so a Croft's plaster splint was applied. The patient left the hospital three days later.

From the above and several subsequent cases of simple oblique fracture treated in this way I have every confidence that weight extension used with a splint such as I have described may be found useful in cases where other splints fail.

Birmingham.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, CITY-ROAD.—The work done by this charity is daily increasing, but the income is inadequate to meet the constant addition to the expenditure. The annual report (the seventy-seventh) states that during 1890 5696 out-patients were admitted, and the total attendance was 23,666. The in-patients numbered 523, of whom 50 had died. The debt which last year existed upon the new wing had been liquidated by the generous efforts of Mr. Hope Morley and Mr. T. Andros De La Rue. The hospital is now the property of the governors. There are still two wards closed for want of funds. The financial condition is a source of anxiety to the council of management, there being a large deficit. The funded capital of the charity does not exceed £3200 from bequests.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

RANDIA DUMETORUM.

BY SIR JAMES SAWYER, M.D., F.R.C.P., F.R.S.E.,
CONSULTING PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

IN Messrs. Southall's exhibit at the meeting of the British Medical Association in Birmingham last summer there were some interesting Indian drugs, comparatively or quite unused or unknown in England, which had been collected by Mr. David Hooper, the eminent Oriental pharmacologist, who has been for some time engaged in India in the office of quinologist to the Madras Government. I examined these drugs, and considered the information I could gather about them, and one of them—namely, randia dumetorum—appeared to me to be worthy of further investigation and trial. Under my directions, Messrs. Southall prepared a series of tinctures of the drug, and one of these, a tincture made with the spirit of ether, B.P., I have been using in practice as a nervine calmative and antispasmodic in cases in which the vegetable antispasmodics, such as valerian or assafœtida, appeared to be indicated. I now desire to invite my brethren to examine this drug for themselves, and to say my experience of its employment points to its proving a useful addition to our repertory of nervine antispasmodics and cardiac excitants. The fruit of randia dumetorum has an ancient repute as a popular medicine in India, being given in large doses as an emetic. The pericarp, especially when fresh, has a powerful and penetrating odour, due to valerianic acid. The active principle of the drug is said to be allied to saponin, which is a glucoside found in soap bark, and also contained in senega and sarsaparilla. We may remember that saponin has been shown to possess some very marked physiological potencies, of a kind which point to valuable and numerous therapeutic applications. For example, Dr. Lauder Brunton describes saponin in various places in his well-known text-book of therapeutics as a respiratory excitant and depressant, as a sternutatory, as a stimulating expectorant, as a depressant of the cardiac inhibitory ganglia and of the vagus ends in the heart, and as a cardiac antagonist of digitalin. In the official pharmacopœia of India, prepared under the direction of Dr. Waring, of the India Office, 1868, I find randia dumetorum described as a non-officinal drug. Randia appears to be a common shrub in most parts of India, growing, as its second name states, in thickets. The fruit is held in high esteem by the natives on account of its emetic properties. The following note upon its use was communicated to Dr. Waring's pharmacopœial committee by Dr. George Bidie:—"The fruit is about the size of a crab apple, round, two-celled, many-seeded, and crowned with the rim of the calyx. It has a peculiar sweetish sickly smell, which increases after the fruit has been kept for a few days. It is very commonly used as an emetic by the poorer classes in Mysore, and is said to be safe and speedy in its action. I have myself seen it used several times, when it produced emesis in about fifteen minutes The dose is one ripe fruit, well bruised, which may be repeated if necessary. It is apparently an irritant emetic." Dr. Waring also adds:—"According to Ainslie, an infusion of the bark of the root is used by the natives to nauseate in bowel complaints. Roxburgh mentions that the bruised fruit thrown into the water intoxicates and even kills fish, which, however, are not considered less wholesome in consequence." I have had four tinctures of randia made—namely, with spirit of ether, rectified spirit of wine, aromatic spirit of ammonia, and proof spirit respectively, and of the strength of one part of the drug in five parts of the tincture. When any one of these tinctures is diluted with water and acidulated with acetic acid, the odour of valerian is very apparent; and it is most apparent in the tincture made with spirit of ether, and this is the tincture I have selected for therapeutic use. The dose of tinctura randiæ dumetorum ætherealis is from fifteen to sixty

minims diluted with water, with which it makes a milky-looking mixture. The tincture has a strong and characteristic odour and taste, and is of a bright maize colour. It may be given with iron, if a greenish colouration be permissible.

Birmingham.

A SINGULAR CASE OF AURAL GROWTH.

By GORDON HOLMES, M.D.,

PHYSICIAN TO THE MUNICIPAL THROAT AND EAR INFIRMARY, LONDON; CONSULTING PHYSICIAN TO THE SHEFFIELD EAR AND THROAT HOSPITAL.

THE following case is probably unique in the published annals of ear disease, and therefore deserves to be placed on record.

In the latter end of 1889 T. A. H——, a healthy-looking and well-grown boy of fifteen, was brought to me on account of deafness of one ear, which had only just been discovered. On examining the right meatus I found the entrance veiled by a film of purulent discharge. When this was cleared away a growth came into view, having the appearance of an ordinary polypus and filling up the meatus to within a couple of lines of its external outlet. To the probe this growth evinced an unusual firmness, and I concluded that I had to deal with a polypus of remarkable toughness. I applied Wilde's snare, however, in the ordinary way, but brought away only about a quarter of an inch of the growth. Again I essayed, but the second time removed only a thin slice, less than a line in thickness. Exploration with a probe now revealed the fact that the meatus was blocked at about a third of its length from the outside by a solid body, presenting all the characteristics of an exostosis, from the external face of which the soft growth had arisen. Under suitable treatment with astringents &c. the raw surface healed up, and as soon as the parts were clear of all discharge it was found that hearing was as perfect, or nearly, as with the sound ear. Nevertheless by ocular inspection it was scarcely possible to detect a crevice through which the sound waves could reach the tympanum. No doubt there is a cavity behind the projecting bone, and, on the principle of hydraulics, a very small aperture is sufficient to influence fully from outside the body of air contiguous to the tympanic membrane. Whether the stenotic condition of the meatus is due to some congenital deformity or to an ordinary exostosis it seems not easy to determine, but I incline to believe that there is a morbid growth from the bone. I have recently heard of the case, more than a year having elapsed, and it appears that the boy has suffered no inconvenience since the local treatment was finished, so that up to date the ear remains practically as useful as if unaffected. An operation is therefore deferred *sine die*, unless further symptoms arise which may demand it.

Cases of exostosis of the auditory meatus are extremely rare—from my own experience,—not more than one in 3000 ordinary instances of ear disease. In two previous cases I have seen there was a purulent discharge, apparently from behind the growth. In such instances I have read that a soft polypus has been discovered posterior to the exostosis after its removal. Ordinary polypus of the ear is decidedly frequent—fully 2 or 3 per cent. of all ear cases. They occur at all ages up to about forty, and I have seen at least one in an infant of a few months old. I do not remember seeing a case after forty, nor do I think they often have their origin much beyond the period of adolescence.

Finsbury-square, E.C.

A CASE OF MONSTROSITY.

By W. ARMSTRONG, L.R.C.P., L.R.C.S. &c.

ON Feb. 7th I was called to attend on Mrs. C—— at 2 P.M. in her second confinement. She did not expect the birth till the end of March. About 11 A.M. the membranes had ruptured, and a large amount of fluid escaped; from that time until my arrival there had been regular though slight hæmorrhage. On examination the rectum was found to be loaded with fæces, the os being about the size of a threepenny piece. An enema of soap and warm water was administered, and the bowels were freely opened. As there were no pains for an hour and a half I left, promising to call later on. I returned at 7 P.M. The patient had had strong pains since four o'clock. On vaginal examination I felt in the vagina a rounded mass, which I took to be a shoulder, and on pushing the finger onwards I felt four or five sharp bony prominences, above which was a soft mass. I then pulled on the arm, and brought down a very small hand. I then introduced three fingers, and hooked on to the fœtus and pulled it down. The placenta was dislodged in a similar way. In this case there was no history of shock or fright during pregnancy. The previous (first) confinement was characterised by complete inertia, and the child was stillborn. Patient is always very anæmic. The fœtus presented the following appearance:—Sex, male. Length between seven and eight inches. The head was continuous with the body, back, and front, the neck being absent. The limbs were long, and feet and hands relatively large; the abdomen much swollen. With these exceptions the body was normal in appearance. The face resembled that of a frog, the eyes very protuberant, and the tongue protruding

from the mouth. Immediately above the eyes the head presented a flattened surface at right angles with the face. The skin of the face was continued over this surface to about the level of the ears, from which line backwards extended a thin red membrane, which had evidently contained fluid, and formed a sac, and this membrane continued backwards down the spine, forming the roof of the open vertebral canal. Just behind a line drawn between the two ears were two bony prominences on each side, projecting vertically considerably above the flat upper surface of the head. Immediately behind the remains of the sac, in the occipital region, was a deep depression, and thence down the spine extended a broad open groove, bounded on either side by six bony prominences, and terminating just above the sacrum. The sketch conveys a very good idea of the appearance of the monster.

Pontesbury, Salop.

CASE OF PUERPERAL FEVER COMMENCING NINE DAYS AFTER DELIVERY.

By GEO. H. SALTER, L.R.C.P.ED., M.R.C.S.ENG.

I THINK a few notes on this case may be of sufficient interest to find a place in the columns of THE LANCET.

On Aug. 30th at 7.30 A.M. Mrs. D—— gave birth to a male child, this being her fifth confinement. She was attended by a midwife. On Sept. 8th at 11 A.M. by request I first saw Mrs. D——. The woman in attendance told me "the labour had been easy, the afterbirth coming away half an hour after the child, and that until 9 o'clock that morning the mother had been doing splendidly. At that time she began to shiver, looked strange about the eyes, and talked queerly. She had had plenty of milk, had suckled the infant several times through the previous night,

and there had been no bad smell about the discharge." On examination I found the patient looking terribly ill, dorsal decubitus, knees not being drawn up; she was more or less delirious. Skin moist, tongue thickly furred. Temperature 104°; pulse 140; respiration 40 per minute. Abdomen was not swollen, and there was not the least tenderness on pressure above the pubes. The lochia were not offensive, but the condition of the bedclothes was not so clean as one could wish. This I saw remedied, ordered her the usual diet (milk and meat broth), and ordered a mixture containing ten grains of salicylate of soda with two minims of tincture of aconite every two hours, promising to call again in the evening. At 7.30 P.M. I found her in much the same condition. She had been delirious through the day, but had taken freely of nourishment without vomiting. Had passed two copious and offensive motions. Temperature 105°; pulse 160; tongue dry. I syringed her with diluted Condy and ordered an ounce of brandy every four hours. On the 9th I visited her twice. The temperature at 11 A.M. was 105°; at 8 P.M. 104°. Her general condition was much the same. The breasts were soft and contained very little milk. The lochia had ceased. There was no swelling of the abdomen or tenderness. She had taken nourishment freely, and the bowels had not been moved. She had not vomited. Had dozed at times, and been less delirious during the later part of the day. She was syringed morning and evening. On the 10th, at 11 A.M., she expressed herself as feeling much better, and certainly looked so. She had taken plenty of nourishment without vomiting, and had slept fairly well during the night. Temperature 102°; pulse 108. I syringed her as before, and gave a mixture containing five grains of quinine every three hours, and promised to call the following morning. On the 11th I was sent for at 8 A.M., and found her condition as follows: Face anxious; slightly jaundiced tint; lips bluish; skin moist; dry tongue, with sordes about the teeth. She was quite conscious, and complained of cough and of pain about the wrists, elbows, and knees, which were slightly swollen. The abdomen was much swollen. There had been some diarrhœa, but no vomiting, through the night. The nourishment had been taken freely. Temperature 102°; pulse 130; respiration 40 per minute. The sputa were brownish, and on percussion and auscultation there were well-marked signs of pneumonia in both lungs. From this time onward she went from bad to worse, and died on Sept. 14th at 11.30 A.M.

I have seen many cases of puerperal fever during the time I have been practising, and in all previous to this my experience has accorded with what is stated in the works I possess on Midwifery. That the initial rigor in this case did not take place until the ninth day I cannot doubt, as the patient told me she had never felt better than she did until the morning of Sept. 8th. Information gained from those who had seen her on the 6th and 7th tended to corroborate this. No doubt the exciting cause of the disease was lack of cleanliness; and I imagine, as the woman was very stout and flabby, the reparative process was more slowly accomplished, and thereby the susceptibility to septic influences unduly prolonged. So good an authority as Lusk[1] writes:—"The third day is the one upon which ordinarily the beginning of the fever is to be anticipated. After the fifth day an attack is rare, and at the end of a week patients may be regarded as having reached the point of safety." Other authors I have at hand take much the same view, and although they agree in saying that the disease may occur later, I fancy a case in which it commenced on the ninth day is sufficiently rare to make it worthy of record.

Learmonth, Victoria, Australia.

[1] The Science and Art of Midwifery, by Wm. Thompson Lusk, M.A., M.B.; 1st edition, p. 620.

THE ROYAL SURREY COUNTY HOSPITAL.—The annual report for 1890 is satisfactory. The continued generous support received has relieved the committee from present financial anxiety. The receipts on current account—£4204 17*s.*—have been adequate to discharge the disbursements and leave a balance of £84 8*s.* 1*d.* in hand. The house surgeon's report showed that the in-patients numbered 774. The home patients on the books were 409 and visits made 1395. The total of out-patients was 4640 and attendances 11,006. The proposal to abolish the attendance of the house surgeon on home patients residing within a mile of the Town Hall, Guildford, has been referred to a committee to consider and report to a special meeting of the governors.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

EASTERN FEVER HOSPITAL, HOMERTON.

A CASE OF PURPURA FULMINANS; NECROPSY; REMARKS.

(Under the care of Dr. COLLIE.)

PURPURA of the severity exhibited in the case of this patient is fortunately of very rare occurrence in this country, and the resemblance which it bears to the cases described by Dr. Henoch is pointed out by Dr. Collie in his remarks. A more recent contribution to the literature of the disease will be found in the *Archives of Pediatrics* for December of last year by Dr. Jackson, of Boston, U.S.A. His communication was founded on the observations of the case of a boy aged five, who had died under his care on the fifth day of the disease. The patient had suffered from severe hæmorrhages from the mucous membranes (epistaxis, hæmatemesis, melæna, and hæmaturia), as well as from large subcutaneous extravasations of blood. The following account is from notes by Miss Fleury, assistant medical officer.

F. B. D—— was admitted into the hospital about 9 P.M. on Nov. 11th last. About Oct. 20th he had an attack of scarlet fever, which he appeared to be passing safely through when the "eruption" which is about to be described was observed on Nov. 10th, about three weeks from the commencement of the scarlet fever. On admission the patient was a pale, thin boy, nine years of age. His expression was placid, and his intelligence remarkably acute. Over the extensor aspect of the left elbow a large ecchymosis extended some way down the forearm. There was an extensive ecchymosis over the right hip, and one on the calf of each leg. The ecchymoses appeared to be recent, and at their margins the extravasated blood was of a bright-red colour. There was extreme tenderness of the skin, but otherwise the patient made no complaint of pain. The tongue was fairly clean, and the gums sound. There was no hæmorrhage into the conjunctiva, and there was none from the mucous membranes. The pulse was fairly good, and the temperature 98·6° F. There was a little branny desquamation on the face. Mind clear. He passed a restless night, but took his nourishment readily, apparently being very thirsty. He complained of "pins and needles" sensation all over, but at 7 A.M. he was reported to have been bright and cheerful. He passed two ounces of urine free of blood during the night, and there was no motion from the bowels. About 8 A.M. violent vomiting came on. He cried much when moved in bed, and complained of pain in the abdomen. At 11 A.M. a new ecchymosis was observed behind the left ear. His face was now very pale, pinched, and drawn, and generally he appeared to be in great distress. It was clear that he was sinking, but his mind continued clear. He died about noon; that is, about sixteen hours after admission, and about forty-eight after the appearance of the "eruption."

Necropsy, forty-eight hours after death.—Rigor mortis was very marked. There was a large ecchymosis on the back extending downwards from the right shoulder; also one over the left hip. The patches were somewhat symmetrical. There was some fluid in each pleural cavity, but more in the right than in the left. Lungs were anæmic, but otherwise normal. The heart contained no clots, but the walls were somewhat thin and flabby. The liver and kidneys were anæmic. Spleen not enlarged. Intestines were very anæmic, containing a little feculent matter, walls very thin. There were a few drops of urine in the bladder, no fluid in the peritoneal cavity. Patchy congestion of the tonsils. On examination of the brain, the arachnoid was found to be milky, the convolutions somewhat flattened, and a small quantity of serum in the ventricles. There was no extravasation of blood in any of the internal organs.

Remarks by Dr. COLLIE.—The interest of this case is

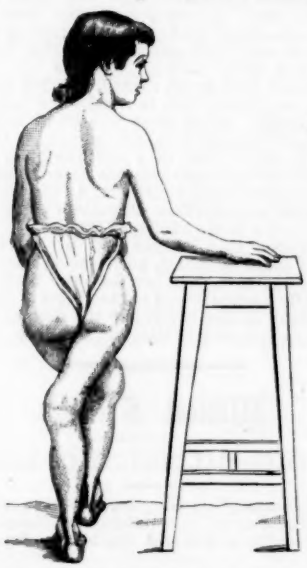
that it appears to be one of a class of rare cases which have been described by Dr. Henoch of Berlin. (For this reference I am indebted to Dr. Donkin.) Henoch says: "In recent years I have seen two cases of extensive hæmorrhage into the skin, both of which were rapidly fatal. I have termed them 'purpura fulminans.' A third case was communicated to me by Dr. Michaelis, and a fourth has been published by Charron. All these cases had this in common—that hæmorrhage from the mucous membranes was wanting, and that extensive ecchymoses, from which within a few hours all the extremities became of a blue-black-red colour and the skin tolerably hard from infiltration of blood, occurred with great rapidity. In two cases there were sero-sanguineous blisters on the skin, which blisters never became gangrenous, or even stank. The course of these cases is very rapid, scarcely twenty-four hours elapsing between the first appearance of the blood spots and death. The longest case lasted four days. There were no complications, and post-mortem examination, with the exception of general anæmia, gave negative results; in particular there was no trace of embolism or thrombosis. The etiology is as obscure. One of my cases showed itself two days after the complete crisis of a pneumonia, the other a week and a half after a very mild scarlatina. For the two other cases no etiology could be suggested."[1] Henoch adds in a footnote that two similar cases have been observed by Ström and Arctander, one of which followed a scarlatina, and according to Heroé three quite similar cases have been published by Guelliot.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

CROSS-LEGGED DEFORMITY; OPERATION; GOOD RESULT.

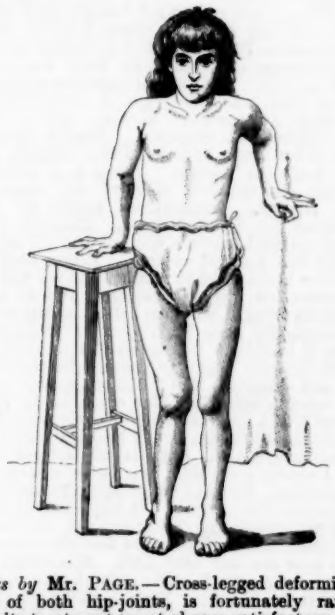
(Under the care of Mr. FREDERICK PAGE.)

RECORDED examples of the cross- or scissor-legged deformity resulting from ankylosis of the hips in the adducted position are few. The better recognition of the principles of treatment and the increased facilities for obtaining treatment in cases of disease of both hip-joints make it improbable that the deformity will ever be otherwise than rare, disease affecting both hips being of itself a rarity. Most of our readers will remember the account of



the deformity in the patients under the care of Mr. Lucas, who brought the condition to the notice of the profession in 1880,[2] and the description of Dr. Tuson's[3] case published in the following year. The eversion of the limbs, which was such a marked feature in those cases, does not appear to have been present in the patient whose history is here given. For the notes of this case we are indebted to Mr. J. Hindhaugh, house surgeon.

J. B——, a schoolgirl aged thirteen years, was admitted in August, 1890, suffering from cross-legged deformity due to ankylosis of both hip-joints. Six years ago she was confined to bed for eight months by an attack of acute inflammation of both hip-joints, and during the illness the deformity arose. The engraving fairly represents her condition on admission. The legs could not be separated, and in consequence the child was much inconvenienced. She was in good health. On Aug. 21st the neck of the right femur was subcutaneously divided with Adams' saw, and the leg straightened. The neck of the left femur was similarly divided, but the limb could not be straightened until the origin of the adductor longus was severed. The legs were then secured in a box splint with starched bandages. The wounds healed at once, without any constitutional disturbance. In six weeks the splint was removed for the first time, and the result, as shown by the following engraving, leaves little to be desired.



Remarks by Mr. PAGE.—Cross-legged deformity, from ankylosis of both hip-joints, is fortunately rarely met with, and its treatment is not always satisfactory. In this case the patient's condition has been materially improved. She walks less awkwardly and much more readily than she did before the legs were straightened, and in other respects she is in a more satisfactory condition, though the hips are still ankylosed, and there is slight genu valgum on the right side.

LONDON COUNTY LUNATIC ASYLUM, HANWELL.

A CASE OF SUICIDAL EPILEPSY.

(Under the care of J. PEEKE RICHARDS, M.R.C.S., Medical Superintendent, Female Department.)

THE presence of certain definite coördinate movements which arise while the patient is in a state of epileptic unconsciousness is a point of peculiar interest in this case. She does not continue what she may happen to be doing before the onset of the petit mal, as is usual in such cases, but commences an entirely new act, the whole end and object of which has always been self-injury or destruction. Moreover, these movements are always preceded by a state of muscular relaxation (which sometimes commences with very slight spasm) which invariably renders the patient helpless and

[1] Kinderkrankheiten, fünfte Auflage, p. 810, Berlin, 1890.
[2] THE LANCET, vol. ii. 1880, pp. 696, 1009.
[3] Ibid., vol. i. 1881, p. 700.

causes her to fall if going about, this again differing from the common forms of epilepsia mitior. It is, perhaps, fortunate that up to the present her unconscious impulses have always been directed towards suicide. Had they been homicidal, it seems not impossible that a serious medico-legal question might have arisen in regard to them. As she often makes very definite plans for self-destruction there is no reason to doubt that, had she been homicidally inclined, she would have done the same thing, and in such a case, although totally ignorant of, and therefore irresponsible for, her actions, there would have appeared so much method in her madness as to render the proof of her innocence a very difficult, if not impossible, task in a court of law and before the public. It is also interesting to note the unusually prolonged duration of a state of quiet, calm, unconsciousness which is nearly always a marked feature of the attacks of petit mal in this patient. During the intervals between her fits, and at such periods as they are few in number, she shows not the slightest indication of a suicidal intent. She is occasionally low-spirited and depressed, but this is exceptional at such times, and her normal state seems to be bright and cheerful. For the notes of the following case we are indebted to Dr. Percy J. Baily, under whose immediate charge the case is.

Clara H——, a female aged twenty-eight years, was admitted into the London County Lunatic Asylum at Hanwell on Aug. 7th, 1890. The following are the notes of her condition on admission: Body well nourished; weight 8st. 12lb. Her general appearance gives one the impression of a rather low type of development. Complexion dark; temperament nervous, with an admixture of the bilious and sanguine. Tongue dirty; pupils normal; irides dark brown. Pulse regular, soft, but full; 84 beats per minute. There is a mitral systolic bruit, and on the left side of the chest a little pleuritic friction. Temperature nearly 99° F. Skin moist; urine free from albumen. Mentally she seemed bright and cheerful, said she did not feel ill, and for some time spoke in a rational manner. Before long, however, her attention commenced to wander, and her talk became a little disconnected. She was evidently able to exert for a short time an effort of will over herself sufficient to concentrate her attention upon the matter under discussion, but her power of inhibition was so small that it soon became exhausted, and she began to express delusions about her husband and children. She is one of a family of eighteen, and she inherits insanity. Her education is plain. She has always been a little imbecile. Her sleep has been good, and her habits temperate. Bodily health always indifferent. Menstruation irregular. She has been subject to fits since she was fourteen years old. Her father and eleven sisters died of phthisis. Since her admission she has had several slight attacks of hæmoptysis. Her epileptic fits have been very frequent, amounting on one occasion to as many as 171 in twenty-four hours. During the first three months of her residence here she had over 3500. She seldom, however, shows any very great exhaustion, a few hours' sleep restoring her wonderfully. For some time after her admission the majority of her attacks affected chiefly the consciousness—in other words, they were attacks of epilepsia mitior or petit mal. They lasted from five to ten minutes, and were generally accompanied by some slight convulsive movement of the arms and neck. She rarely made a faint cry at the commencement of an attack, but never called loudly; if going about she would fall down. It was thought that she never had an aura, as she gave no warning before the actual onset of the first stage of the fit. If she happened to be spoken to shortly before the approach of an attack, it was sometimes possible to notice a slight alteration in her manner, her cerebration appeared to be slowed, she did not seem to comprehend what was said to her, and, either from this reason or because she was not able to frame her words, she would not answer when addressed. This condition of semi-consciousness usually lasted only a very short time (two or three minutes), but passed into a state almost resembling coma, either with or without the slight convulsion above mentioned. She would then lie back in the bed entirely free from spasm; her respiration was calm and easy, but a little deeper than usual; her pulse was slightly increased in frequency, and was full, soft, and regular; her pupils were moderately contracted and did not react to light; her corneæ were quite insensible to touch; her skin remained cool, and there was no tendency to any marked increase in the secretion of sweat; the smaller vessels of the face were contracted, giving rise to a marked pallor. After remaining in this state for two or three minutes the patient sat up, opened her eyes, and began gazing about her as if looking for something. There is every reason to suppose, however, that during this stage of the attack she had entirely lost the sense of sight, as all her actions appeared to be led by that of touch. It was now that the most peculiar features of the case revealed themselves. While still remaining in a state of complete unconsciousness she would go through a series of perfectly coördinated movements, all of which were of a suicidal kind. Taking one of her sheets by one corner in one hand (always the left), she felt about with the other in order to find its borders, and, having discovered these and arranged them satisfactorily, suddenly, by drawing the sheet through the right hand, converted it into the semblance of a rope, and, throwing it rapidly over her head, pulled so vigorously upon the two extremities as most effectually to prevent all possibility of respiration. So determined was she in thus attempting to strangle herself that it was almost impossible for two people to overcome her muscular action and disentangle the sheet from her neck until by partial asphyxiation she became weakened and exhausted. Then followed a slight spasm of the muscles of the gullet, giving rise to a peculiar gulping sound, after which the patient rapidly regained consciousness, waking up as if from a prolonged sleep. She remained for a short time much confused mentally, was entirely ignorant of all that she had been doing, mistook the identity of persons, forgot the names of the nurses by whom she was constantly attended, had no idea of what time of day or night it might happen to be, and could not tell where she was or how long she had been in the asylum. Occasionally she had hallucinations either of sight or hearing or both. She would talk to and about her husband and children as if she both saw and heard them. After her admission the character of the fits gradually changed; she gave up attempting to strangle herself, and instead would end these attacks of epilepsia mitior by jumping out of bed and rushing with all her might against a brick wall or other obstacle. In this way her head had received some rather severe contusions, and she has lately varied their termination by attempting to swallow anything within her reach. Being under constant supervision she has not been able to do herself any harm in this way. At the present time most of her fits are of the more usual kind of epilepsy, passing through the stages of tonic and clonic spasm. The former stage is, however, of very short duration, and in the latter the movements are more rapid, as well as being more regular and of less amplitude, than is usually the case in typical cases of epilepsy. After these attacks of haut mal she shows no manifestations of the suicidal impulse. Occasionally she is a little restless, but, as a rule, she gives no trouble, and the post-epileptic state presents no peculiarity.

The case remains under treatment. All the usual remedies have been tried without effect. Bromide of potassium made a sensible reduction in the number of attacks, but produced so much depression that its use had to be discontinued. Tincture of cannabis indica, commencing with ten-minim doses, appeared to relieve her for some little time; but she so rapidly became inured to the effects of the drug that it was thought unwise to increase the dose to the extent which seemed necessary to maintain its effect.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Malignant Disease of the Œsophagus.—Symmetrical Periostitis.—Hydatids of Liver.—Malignant Nasal Polypus.—Syringomyelia. — Cerebral Syphilis. — Supernumerary Nipple.

AN ordinary meeting of this Society was held on March 17th, the President, Dr. Dickinson, in the chair.

Dr. LAURISTON SHAW showed two cases of Malignant Disease of the Œsophagus. The first was a sarcoma which appeared as an ulcer with well-defined margins, destroying an extensive area of the mucous membrane of the gullet, and perforating the posterior wall of the trachea just above

its bifurcation. There were secondary deposits in the neighbouring mediastinal lymphatic glands, and in the lungs and kidneys. The patient from whom the specimen was taken was a female aged thirty-eight years who had suffered from dysphagia for six months, and died two days after her admission to Guy's Hospital in 1855. The histological characters of the growth were those of a sarcoma with round and oval cells, and as such was a rare condition, only one other primary sarcoma of the œsophagus having been shown at the Pathological Society. The second specimen shown was an ordinary squamous-celled epithelioma, which was worthy of notice on account of the existence of a large mass of growth protruding into the lumen of the gullet, and thus producing œsophageal obstruction. The growth, which was cylindrical in shape, measured 2½ in. from above downwards, and 1½ in. across, and completely filled the tube, so that a small tube could barely be passed by its side. The tumour was attached to the hinder wall of the œsophagus by its lower and posterior surface, and for the rest was free, and presented a nodular, sloughy appearance. There was a ring of ulceration around the œsophagus below the attachment of the tumour. The patient was a male aged fifty-five who was admitted under Mr. Charters Symonds in 1890 for dysphagia of five months' duration. When admitted he was extremely emaciated and quite unable to swallow, and it was found impossible to pass a bougie into the stomach. He died fourteen days after admission, and at the necropsy the lungs were found partially consolidated by broncho-pneumonia. There were no secondary deposits. The specimen illustrated an unusual form of obstruction of the œsophagus by malignant disease, and one which would be particularly difficult to overcome by intubation.—Dr. GALLOWAY said he had been investigating the way in which malignant disease of the viscera spread. The growth sometimes, though rarely, incrusted the viscera without invading them, or at other times the muscular structure alone might be involved. He referred to a case of sarcoma in which the growth spread over the whole of the peritoneum without penetrating the muscular substance; and in two cases—one of sarcoma and one of carcinoma—the muscular coats of the stomach had been invaded; the carcinoma, however, appeared to destroy the muscle fibres to a far greater extent than the sarcoma did.—Mr. SHATTOCK said that most sarcomas springing from the submucous tissue belonged to the small round-celled class.—The specimen was referred to the Morbid Growths Committee.

Mr. BOWLBY showed specimens of Symmetrical Periostitis with Peculiar Formation of New Bone. The patient was a male infant aged one year, and had been ill for about a week prior to admission into the Metropolitan Hospital. There was slight pyrexia, and the legs were swollen from œdema. The lower part of each thigh was greatly swollen, the right being the larger. On this side there was fluctuation, on the other there was none, and an incision liberated pus from the former. The child suffered from bronchitis, and died eighteen days after admission. A post-mortem examination showed a complete ring of new bone on the right side separated by a large interval from the shaft of the femur, to which, on transverse section, it bore the same sort of relation that the tyre of a wheel did to the axle. On the left side was a similar but smaller formation. The complete ring of bone was evidently due to a separation of the periosteum in an intact state from the shaft of the femur, and was of great thickness. It was apparently formed with great rapidity, as the whole duration of the illness did not exceed four or five weeks. There was no evidence of any constitutional disorder.—Mr. JONATHAN HUTCHINSON, jun., asked if the pus evacuated had been examined for micro-organisms. He referred to the case of a young infant suffering from pyæmia whose clavicular joints at both ends were full of pus, and yet there was a considerable wall of new bone round the affected joints which must have been formed with extreme rapidity.—Mr. SHATTOCK said that if the case had been one of acute periostitis the central bone ought to have undergone necrosis. He suggested that the periosteum had been primarily separated by an effusion of blood which had softened, and then, perhaps, an infective inflammation had been set up.—Mr. BOWLBY, in reply, said he had not examined the pus. There was absence of any sign of scurvy rickets, no clot being evacuated and the pus remaining uncoloured. He thought that the periosteum had been raised by a passive serous effusion, and for that reason the bone did not die, as it was not inflamed.

Dr. S. WEST showed a Liver with two Hydatids, in which the sacs communicated but not the cysts, taken from a girl aged sixteen, who had been in good health until two years before she came under treatment. At her first admission to hospital she was tapped and much relieved, but she returned seven months later with an enormous abdominal swelling, there being a prominence in the epigastrium which was soft, boggy, and fluctuating. The girl, who suffered much respiratory embarrassment, was tapped in one of the right intercostal spaces and a large quantity of fluid removed, which was clear and of hydatid character; then something appeared to burst and the fluid became bile-stained. At three successive tappings large quantities of fluid were evacuated, but as it reappeared an incision was made and a cyst connected with the liver emptied of decomposing membrane. There were found to be two cysts, one in the liver and one above it. Drainage proved to be a very difficult matter, and a fortnight after the operation the patient sank and died. At the necropsy there were found two sacs, one in the substance of the liver and one beneath its capsule below the diaphragm. There was a communication between the two large enough to admit a finger, but the cyst in the upper sac was quite separate. The pleura was not obliterated, and hence the upper cyst could not have been opened through the intercostal spaces.—Mr. WILLIAMS had seen a case of hepatic hydatid so large that it filled the abdomen and pelvis, and was operated on in mistake for an ovarian tumour.—Dr. OPENSHAW had seen hydatids between the liver and diaphragm. He suggested injection of iodine into the pleura, so as to obliterate the lower part of the sac and thus allow the cyst to be drained from a intercostal space.—Dr. STEPHEN MACKENZIE remarked that the removal of a small quantity of fluid from an hydatid cyst usually led to its death. If one withdrew a quantity of fluid from a liver cyst whose walls were so placed that they could not collapse, something must take the place of the removed fluid; in some cases not merely serum would transude into the sac, but also a number of corpuscular elements, causing the formation of abscess. He asked Dr. West what was the basis of his assumption that the cyst was alive after the tapping. True multilocular hydatids were rare in this country, though they were commonly met with abroad.—Dr. VOELCKER said that at the Children's Hospital last year Mr. Pitts excised a portion of rib, stitched off the pleura, and then drained a hepatic hydatid through the opening; the patient recovered.—The PRESIDENT referred to a case of hydatid of the liver which occurred in a child of six. It was tapped with an aspirator and a large quantity of fluid drawn off; the child died three days later of what was thought to be acute peritonitis, but at the necropsy the cause of the fever was found to be, not peritonitis, but suppuration of the cyst.—Dr. WEST, in reply, said that on the second tapping the fluid was serous, and therefore probably the cyst was still living, but at the third tapping the fluid was albuminous. He had never seen a multilocular hydatid in this country. He knew of cases in which hepatic hydatids had been drained through the healthy pleura.

Mr. A. E. BARKER gave an account of a peculiar Polypus of the Nose which he had met with in a lady aged forty, in the autumn of 1888. The polyp had been present for about a year, according to the history of the symptoms. The tumour, when seen *in situ*, appeared to be an ordinary polyp of the nose, except for some small hæmorrhagic spots on the surface. At the operation for removal it was found to be friable and inelastic, and came away in little pieces. It could not be torn away *en masse*. There was very profuse hæmorrhage, thirteen ounces of blood being lost altogether. After the operation the patient had remained well for six or eight weeks. In November, 1888, the nose was again completely blocked, and death occurred in February, 1889, when there were secondary growths in the cheek and throat. The growth had not penetrated through the ethmoid bone. The tumour possessed epithelium both on the surface and in the interior. The whole was supported and mounted on a stroma. There was no limiting membrane. The epithelial elements were irregular, but not columnar. In parts the epithelial cells had undergone degeneration, especially where they were packed most closely together. The stroma was fibrous and myxomatous. The specimen was a very uncommon one, and he thought that it most likely belonged to the class of tumours known as "carcinoma myxomatoides."—Mr. BOWLBY had seen two similar cases, one in a

lad aged nineteen, who was admitted with exceedingly vascular polypi, which were removed. Thirteen months later he came back with a large growth blocking the nose, and he died of meningitis, the growth, a myxosarcoma, having fungated through the ethmoid bone. In the second case a man of twenty-two had suffered from polypi for years, and presented himself with a sarcomatous mass in the nose. The growths, as far as possible, were removed, but the patient became comatose and died. This also proved to be sarcoma, which had perforated the ethmoid bone and set up meningitis. A third case had come under the care of Mr. Butlin, while others had been mentioned in a clinical lecture by Sir William Savory published some time ago.—Mr. R. WILLIAMS thought the growth should be called adeno-myxosarcoma.—Mr. BARKER, in reply, said the only other case known to him had been under Mr. Erichsen's care, and the ethmoid bone was perforated.—The specimen was referred to the Morbid Growths Committee.

Dr. GALLOWAY showed a specimen of Syringomyelia. The patient from whom it was taken, a male aged forty-three, suffered during life from general paralysis of the insane, and died on account of exhaustion from acute mania complicating this condition. He suffered also from alteration of sensation, which, being probably exaggerated on account of his mental condition, caused him to tear his skin in various places and to inflict severe injuries on himself, his complaints being that he had been placed in Cayenne-pepper bottles, or that the devil was inside him and wanted to get out. Post mortem it was found that the brain showed the ordinary appearances associated with general paralysis of the insane, and in addition showed dilatation of the lateral ventricles. The spinal cord, to naked-eye appearance, seemed almost normal, except in the dorsal region, where it appeared flattened antero-posteriorly. On making transverse sections, however, it was found that a central cavity extended along the cord from the upper cervical to the upper lumbar region. In the dorsal region the cavity was most extensive, and on this account allowed of the flattening of the cord like a collapsed tube. In the cervical, lower dorsal and upper lumbar regions the cavity was small, and did not affect materially the shape of the cord. The cavity was surrounded by a ring of tissue, firmer and whiter than the surrounding cord substance, and which on microscopical examination proved to be composed of characteristically branched neuroglia cells. The neuroglia ring varied inversely with the size of the cavity, being almost inappreciable in the mid-dorsal region, where the cavity extended into and replaced most of the grey substance of the cornua. The rod of morbid neuroglia, with its cavity, was situated posterior to the central canal of the cord, which was normal, except in the dorsal region, where it was absorbed in the widely extended cavity. The primary lesion seemed to be the formation of the rod of neuroglia at the base of the posterior median fissure of the cord behind the central canal, probably as a relic of the embryonic filling up of the posterior extension of the original central canal. The usual explanation, that the cavity was formed by the subsequent liquefaction and absorption of the central parts of the column of neuroglia, was difficult to accept in this case, as the cells of the neuroglia showed no signs of degeneration at any point, and the growth was well supplied with bloodvessels. The spreading of the cavity into the grey matter of the cornua to such an extent in the dorsal region was probably due to a secondary myelitis followed by absorption of the inflamed grey matter. A characteristic feature of the neuroglia tissue surrounding the abnormal cavity was that its inner layers seemed condensed, and formed a sort of the lining membrane, which showed a very contorted outline, and which somewhat resembled the elastic coat of an artery.—The PRESIDENT had seen dilatation of the cord in two or three cases of nervous disease, notably in one instance of chorea.

Mr. J. HUTCHINSON, jun., showed the Skull-cap and Brain from a case of Inherited Syphilis, the right occipital lobe being almost entirely replaced by a huge gumma which was adherent to the dura mater. Thinning had occurred as a result of this through the parietal bone, and a large oval aperture one inch and a half in long diameter had been formed, through which the membrane and subarachnoid fluid had protruded. There had never been any ulceration over this, though the scalp was extremely thinned; during life the swelling had pulsated. The ventricles were much dilated, and the left lateral one was continued back into the perforation of the skull. The left lobe of the cerebellum was implicated by extension of the gummatous process through the tentorium. There was no general meningitis, and the process had been a very slow one, the aperture in the skull having formed five years before the patient's death, when she was sixteen years old. The symptoms during life were, besides this peculiar form of meningocele, (1) paraplegia varying from time to time and incomplete, no doubt due to intra-ventricular pressure of fluid; (2) double optic neuritis leading to atrophy and blindness; (3) albuminuria and anæmia. Sections showed that the left occipital cortex was in large part replaced by fibrous and characteristic gummatous material with considerable calcareous degeneration. The patient was under the care of Dr. Buncombe in the City of London Infirmary, and the case had been diagnosed as syphilitic, although the teeth and eyes presented no characteristic features of inherited syphilis. She had some years before suffered from (?) gummatous ulcers on the back and neck, which had healed with extensive scarring. Allusion was made to the rarity of extensive perforation of the skull from syphilis apart from actual necrosis and from cranio-tabes in infantile periods, and a somewhat similar specimen referred to in the London Hospital museum, in which an aperture had formed in one frontal bone over a gumma in the cortex. In this case (under Dr. Hughlings Jackson) a similar pulsating swelling had been present during life.

Mr. R. WILLIAMS read an account of a Supernumerary Median Nipple and Areola, the patient being exhibited at the last meeting. He was a man aged sixty-seven, who presented not only this median nipple and areola as large as a shilling over the lower part of the sternum, two inches below the level of the normal nipples, but also a small rudimentary nipple, devoid of areola, four inches below the left nipple, and rather internal to it. The normal pectoral pair of nipples were of great size, as large as a woman's, and there was a recurrent epithelioma of the lower lip and glands of the neck. Median mammæ were of very rare occurrence in human beings, only three other cases having been recorded. In each of these the supernumerary structures were rudimentary, and occupied the same position as in this case—namely, over the lower part of the sternum. In the animal world median mammæ were almost unknown except among the marsupials. According to Darwin, nipples were first acquired by marsupials after they had diverged from and risen above the monotremes, and were by them transmitted to the placental mammals. The occasional appearance of supernumerary median mammæ in human beings was regarded as due to reversion to this ancient ancestral arrangement. There was no evidence that redundant mammary structures could arise just anywhere as mere "sports" from ordinary sebaceous follicles; but they were met with only in certain definite situations, which corresponded with those normally occupied by the glands of polymastic animals.—Mr. JONATHAN HUTCHINSON, jun., felt sure that the case was one of pigmented mole, and hoped that the diagnosis would be verified with the microscope.—The PRESIDENT suggested that if possible this course should be pursued, and the result reported later to the Society.

The following card specimens were shown:—

Dr. S. WEST: Casts from Plastic Bronchitis.

Mr. EDGAR WILLETT: Microscopical specimens of Secondary Scirrhus of Bone.

Dr. A. F. VOELCKER: (1) Rickets with General Tuberculosis; (2) General Peritonitis after Perforation of the Vermiform Appendix.

Dr. NEWTON PITT: (1) Anthrax Œdema of Stomach; (2) Gangrene of Lung Secondary to Bronchiectasis.

CLINICAL SOCIETY OF LONDON.

Atrophic Spinal Paralysis and Multiple Neuritis.—Symmetrical Gangrene of Feet.—Septicæmia due to Sewer Air.

AN ordinary meeting of this Society was held on March 13th, Sir Dyce Duckworth, President, in the chair.

Dr. GOWERS read an account of a case of Acute Atrophic Paralysis (acute anterior poliomyelitis), in which there was also a primary multiple neuritis. The patient was a boy aged seven, in whom the paralysis developed after several days of constitutional disturbance. The first symptoms of

this commenced within twenty-four hours of a quite cold bath, to which he was unaccustomed. The weather at the time was very hot. The atrophic paralysis involved the whole left arm and shoulder muscles and the right deltoid, triceps and biceps. At the end of a fortnight these muscles and all those of the left arm presented the reaction of degeneration, and their paralysis and wasting proved permanent. Simultaneously with their palsy the legs became weak, although all movements could be performed. The knee-jerks were preserved throughout, and when the palsy had existed for a week they had become excessive, and a foot clonus had developed on each side. This continued for some months, although the legs gradually regained power; so that the child was able to walk in two months from the onset, and the legs ultimately became quite strong. The symptoms thus showed cervical anterior poliomyelitis extensive and severe on the left side, and on both sides involving slightly the adjacent white substance, so as even to cause some secondary descending degeneration in the pyramidal fibres, transient, and due to damage that passed away. The interest of the case, however, rested in the indications of neuritis. Even before the palsy was discovered the arms and legs became extremely tender, chiefly in the neighbourhood of the elbow-joints and knee-joints, and thought to be in them because every movement and manipulation of the joints caused great pain. Careful examination showed, however, that it was entirely in the nerves—in the sciatic and popliteal nerves of the legs, and the ulnar and median especially in the arms. The tenderness lessened upwards and downwards, and was much slighter at the brachial plexus. The nerves of the left arm were more tender than those of the right. There was no anæsthesia or other evidence of damage to the conducting fibres of the nerves. These symptoms lessened in the course of a few weeks and passed away entirely, although the atrophic palsy persisted in almost its initial degree. They were certainly due to a multiple perineuritis, affecting the nerves in the middle of their course, primary, and developing simultaneously with the spinal lesion in consequence of the same cause. In commenting on the case, Dr. Gowers remarked on the probability that the pain and tenderness met with in other cases of poliomyelitis, and usually referred to the joints, was really seated in the nerves, which suffer mechanical disturbance at every movement of the joints. Although poliomyelitis was probably produced through the agency of a blood state, the latter was certainly often generated by exposure to cold, and effective chiefly in the hot season of the year, which in some way predispose either to the susceptibility of the individual or to the production of a toxic influence. Exposure to cold was capable also of causing the other and more common form of multiple neuritis, the parenchymatous variety, in which the nerve fibres suffered primarily, the sheaths scarcely or not at all, except in their nerves, and the incidence of the effect was peripheral and more perfectly symmetrical. A difference must exist in the blood state due to cold in the two classes of neuritis, and it was important to note the associations of the two forms thus produced. In this connexion the author referred to the leading features of the two forms of neuritis, the parenchymatous and the adventitial, using the latter term as a designation for the variety in which the connective tissue elements were primarily affected. Recent researches were referred to which suggested that there were two varieties of poliomyelitis, the primary affection in one being of the nerve cells, in the other the basis substance of the grey matter, the former being analogous to the parenchymatous, the latter to the adventitial forms of neuritis, and reasons were given for regarding the poliomyelitis in the case described as of the second class. The paper concluded with an allusion to the probability that an actual organised virus sometimes produced the adventitial form of neuritis by the direct influence of the organisms on the connective tissue elements, and especially on the sheath, as was seen in leprosy, and might be the case in syphilis; while, on the other hand, the parenchymatous form was certainly often due to a product which the organisms produced by their growth in the body, as one active agent, alcohol, was produced out of the body. The question was suggested, as deserving study in this connexion, whether diphtheritic neuritis commencing during the primary disease was not chiefly adventitial, and that which began when the disease was over in greater degree parenchymatous, and the contrast was noted between the adventitial neuritis of the active stage of syphilis and the parenchymatous later form which often constituted part of the lesion of tabes.—The PRESIDENT said that he would be glad to have known more about the treatment adopted in this case.—Dr. BREVOR said he had never seen a similar case. He asked whether there was any anæsthesia in the affected limbs, and whether Dr. Gowers looked upon the neuritis as secondary to inflammation of the anterior horns or as something quite separate. He wished to know also whether the supinator longus was affected, remarking that it was a very useful muscle in determining whether the lesion was central or not. He pointed out that if the deltoid and biceps were paralysed the supinator longus nearly always followed suit when the lesion was central, whereas if not central it was usually not affected.—The PRESIDENT asked whether Dr. Gowers supposed that the pain so commonly associated with the early stage of atrophic spinal paralysis was dependent upon neuritis.—In reply, Dr. GOWERS mentioned one point in treatment often neglected—the importance of not permitting the spinal cord, when the seat of acute inflammation, to be the lowest part of the body. The evidence was conclusive that the neuritis was primary and not secondary to the spinal lesion, and also that the conducting fibres of the nerve were not involved. In regard to the grouping of the muscles affected, as bearing on the central or peripheral nature of the lesion, he stated that the rule of association according to function in poliomyelitis was one to which exceptions were met with, in which the distribution of the palsy was more or less random, and indicated an irregular position of the lesion in the grey matter, by which groups of cells were partially and irregularly damaged.

Mr. PEARCE GOULD read a paper on a case of Symmetrical Gangrene of the Feet from Obliterating Disease and Thrombosis of the Arteries and Veins. The patient was a draper's traveller, forty-three years of age, who, with the exception of an attack of mania some years ago, enjoyed good health until Christmas, 1889, when he suffered from influenza. This was followed by mental depression, and on June 22nd he was admitted into the Newington Infirmary, suffering from hallucinations and mania. Two days later he was transferred to Grove Hall Asylum under the care of Dr. Mickle. On Jan. 29th he complained of severe pain in the right knee, down the leg, and into the foot. Two days later the right foot was found to be cold and blue, and no pulsation could be felt in either tibial artery. He now complained of pain in the left foot. On Feb. 2nd the right foot was gangrenous, and the left foot was cold and blue, and quickly became gangrenous. On Feb. 22nd the patient was transferred to Mr. Pearce Gould's care in Middlesex Hospital. Both feet were black and gangrenous to above the malleoli; the tips of the toes were mummified, the rest of the part being soft, but without much swelling, vesication, or crackling; the left leg up to the knee pitted on pressure. On the right side pulsation was felt along the whole length of the femoral artery, and the popliteal trunk was a hard pulseless cord. On the left side pulsation was felt as low as the level of the knee-joint, and there abruptly ceased. The other arteries of the body, the heart, and the urine were found to be healthy. The patient was febrile, the temperature ranging from 100° to 101°. The mania and hallucinations had disappeared with the onset of the acute pain in the feet. The legs were amputated through the knee joint by Stephen Smith's method, at a week's interval, and the patient made a complete but slow recovery. (He was shown at the meeting.) Dr. Sidney Martin examined the vessels of the diseased limbs, and exhibited microscopical specimens of several of the vessels which showed a widespread endarteritis and endophlebitis affecting both large and small vessels, the change being more marked in the veins than the arteries. Many of the diseased vessels were plugged with organising thrombi. Commenting on the nature of this case of spontaneous gangrene, Mr. Pearce Gould said that many causes, such as atheroma, calcareous degeneration, ergotism, and diabetes, could be at once excluded. Although the symmetry suggested Raynaud's disease, there was nothing else to support that view. No previous attacks of ischæmia; no hæmoglobinuria. There was also no history or evidence of constitutional syphilis. Although but little was known of the disease called "primary arteritis obliterans"—cases of which had been reported by Dr. Hadden and himself to this Society, and by Burow, Jaesch, and Winiwarter in Germany,—he felt that at any rate provisionally it must be placed in this category, in spite of the symmetry and acute onset of the gangrene, in which it differed markedly from the above-mentioned cases. The pathological evidence

of a primary endarteritis and endophlebitis was the main argument in support of this view. The treatment pursued —amputation well above the gangrene—was opposed to the general rule of surgery in cases of spontaneous gangrene. It was held to be justified by the relief it afforded from the blood poisoning from the gangrenous parts, by the distinct indications of the limitation of the vascular disease, and also by the special merits of Stephen Smith's amputation.—Dr. MICKLE said the case had been under his care before passing under that of the author. The patient was evidently predisposed to insanity, having had previous attacks lasting for a month. With regard to the case being produced by syphilitic disease of the arteries, he remarked that there was apparently no connexion between the medical and the surgical aspects of the case. The case was not like those he had seen of syphilitic disease of the arteries giving rise to secondary diseases of the brain with nervous and mental symptoms and gangrene of the lower extremities. The only case of this kind which he had seen was one in which, in addition to brain lesion attributable to syphilitic disease of the cerebral arteries, there was syphilis of the heart. Mr. Gould's patient had suffered severely from influenza, and the attack was followed by great depression, to which was superadded a good deal of worry in consequence of his having lost his place. This worry led to a second severe attack of insanity. When admitted he had a number of bruises on the limbs and also on the trunk, but he incurred none afterwards, every care having been taken by placing him in a padded room &c.—Dr. CHURTON of Leeds said he had at the present moment, in the Leeds Infirmary, under his care, a case which had given him a good deal of anxiety. It somewhat resembled that related by Mr. Gould. The patient was a woman of forty-two, married, exceedingly stout, full-blooded, and strong. She was brought in complaining of loss of power and sensation in the left leg, which was dark and discoloured. The limb was cold and insensitive, and sensation in the back of the limb extended three inches lower than in the front. There were patches like blisters and superficial ulceration, but she had had some turpentine applied before admission, and he was uncertain how far this local irritation had been caused thereby. She had had one child twenty years ago, and none since. No miscarriage and no signs of syphilis. The arteries could not be examined on account of her obese condition, but there was distinct thickening in the line of the femoral. The heart was enlarged, and there was a systolic bruit at the apex; at the base there was a slight aortic clank. No œdema or disease of the veins, but there was a little albumen in the urine. The attack began on Feb. 1st, with pain in the right foot, numbness and tingling. The limb was rubbed and the sensation disappeared. The same day the left foot began in a similar manner and could not be got rid of by rubbing; on the contrary, in a very short time it began to be discoloured. It was thought that she was about to have gangrene, and he was urged to consent to amputation, but he waited for eight days. He supposed that it was an endoarteritis of the femoral artery above the profunda. It was not until Feb. 12th, when the skin was becoming mummified and the foot was shrinking, that he consented, and the leg was amputated by Mr. Mayo Robson. A soft clot was found in the artery, but it itself was healthy. A few days later the right foot began to show symptoms of gangrene, but this gradually passed off. The patient had been given blue pill, and this seemed to have some effect in causing it to clear up; she was otherwise in a very good condition.—Mr. LUNN said that he had shown a case at this Society some time ago for purposes of diagnosis. It was a man with cold, black feet associated with agonising pain, requiring large doses of opium for its relief. The general opinion was in favour of its being due to Raynaud's disease. The man was quite unable to get about. One foot got very black and enlarged up to the ankle-joint. He amputated the foot, and the man got so much better that he amputated the other. The last few months he had begun to get his old pain again, and the stump was still extremely cold, a fact which inspired him with some apprehension. His legs were perfectly sound at present, but were very cold. This case was far more chronic than the one related. He asked what was the cause of the delirium in Mr. Gould's case; the man had told him that he was liable to get very wet feet.—Mr. LONGHURST suggested that it might be due to a dyscrasia of the blood associated with gout, diabetes, or syphilis. He thought the symptoms pointed to a complaint having a nervous origin.—Mr. GOULD, in reply, observed that it must be always a matter of doubt as to what was the precise cause. His own opinion was that there was a blood state giving rise to an inflammation of the arteries in the lower limbs, and then that the blood state *plus* the state of the arteries led to thrombosis. There was no evidence of trophic change or anything to indicate a nervous origin. He was glad Dr. Mickle had given his experience of the case, for when the man was admitted to the hospital his memory was markedly imperfect, and he could give no details of his past history—so that he was unaware of his having suffered from influenza, a very important detail. Dr. Churton's case was one of extreme interest, and was a parallel to his own. As to the coldness of stumps, he would not be inclined to lay much stress on this, it being very common and not necessarily inspiring any apprehension.

Mr. C. MANSELL MOULLIN read the notes of three cases of Septicæmia due to Sewer Air. The first was a compound comminuted fracture into the ankle-joint in a healthy boy aged twelve; the second, a large, cold, subgluteal abscess (probably originating in the bursa) in a man aged fifty-two; the third, a compound dislocation of the metacarpus in a boy aged seventeen. The three cases were admitted, the first on Oct. 9th, the second on Nov. 6th, and the third on Dec. 2nd, 1879. They occurred in the same bed in the same ward, and there was no other case in the ward either then or since, although at the same time, and in beds immediately opposite (but on the windward side), were such injuries as compound fractures of both legs and primary amputation of the leg, trephining for injury to the frontal bone, and fractured jaw. The first and the last case (those in which the injury was confined to the limbs) were treated by prolonged immersion in baths of perchloride of mercury (1 part in 10,000), the first for two hours twice a day, the last continuously. The abscess was drained thoroughly and irrigated with carbolic lotion. In all three the symptoms presented a striking resemblance. In the first (treated by baths twice a day) the temperature rose at once and rapidly assumed a severe remittent character. In the second it rose, not when the abscess was opened, but two days later, when the wound was exposed, and followed the same type. In the third it remained normal so long as the limb was immersed, but each time an attempt was made to leave off the bath it rose at once. The first recovered after amputation; tetanus set in on the twelfth day after the injury, and the symptoms rapidly increased in severity until the limb was removed; then they began to fall at once, although it was nearly a fortnight before they disappeared. The second and the third died, the latter of the two suffering for the last week before death from rigors, which recurred twice a day with the regularity of ague. The cause was found out by Dr. Parkes in the course of an independent investigation ordered by the Hospital Committee. Underneath the flooring close by the bed was a cistern with an overflow pipe running straight down, without trap or bend, into an old sewer. This had formed part of some long since forgotten system of drainage, and had many years before been (very inefficiently) adapted to the wants of the hospital. The pipe acted as the ventilating shaft, and under the flooring there was a strong current of air setting in the direction of the bed. The pipe was sealed and no case had occurred since. Mr. Mansell Moullin pointed out that the poison must have been absorbed through the wound without causing any local inflammation; there was no cellulitis, lymphangitis, or phlebitis; there was no sign of any secondary abscess or of any visceral inflammation (although one patient suffered from diarrhœa), and no gross lesions of any kind (other than slight granular disease of the kidneys) was found in the post-mortem examination of the second case. Unfortunately permission could not be obtained for the third.—Mr. BRUCE CLARKE said that about six or seven years ago there had been an extraordinary number of cases at the West London Hospital, and never since. He observed that all the cases had occurred in two or three beds at one corner of the ward, and on attention being directed to the sanitary conditions it was noticed that there was outside the window in that corner a dustheap upon which a number of bones had been flung, and on to which drained a pipe from the post-mortem room; the air from it passed into the window. This was rectified, and there had not been a case since.—Dr. DONALD HOOD narrated a series of cases showing the deleterious effects of sewer air. Sometimes it produced simple, unexplainable oscillations of temperature, the morning tem-

perature generally being the higher. In other cases he showed that it had a very marked effect in prolonging and aggravating diseases, such as measles, normally of a mild character. In one family in which measles lingered for a considerable time one member of it died from a malignant form of the disease, but they all rapidly recovered on being removed to the country. He thought it was most important to recognise the effect of sewer air upon the natural course of any disease.—Mr. MANSELL MOULLIN, in reply, said he had seen several outbreaks of tetanus, in each of which only one of three or four persons was attacked in the same ward. He had been unable to trace any connexion in the matter of contagion or infection. He presumed that there was no doubt at the present time that tetanus was a disease which was caused by external agents acting upon wounds.

MEDICAL SOCIETY OF LONDON.

Litholapaxy in Children.

AN ordinary meeting of this Society was held on March 16th, Dr. Douglas Powell, President, in the chair.

Mr. EDMUND OWEN reported a fatal case of rupture of a boy's bladder, which accident occurred during the performance of the operation of Litholapaxy. The patient was an unhealthy child of something less than five years, who for two months had been troubled with frequent and painful micturition, the urine being thick and offensive. He had been taken to a large hospital, where, the mother said, circumcision had been advised; but it was also suggested that the boy was not at that time in a fit state to be operated on. He then came under Mr. Owen's care, and, on sounding him, a small stone was discovered. Slight bleeding followed this examination. The boy was put to bed and fed up for twelve days in order that his strength might be so much improved that he could the better stand the operation of litholapaxy after the manner of Surgeon-Major Keegan. At the end of this time chloroform was administered, a No. 6 lithotrite was introduced, and the stone was effectually and efficiently dealt with. The bladder was then washed out, and the fragments were removed by a No 9 evacuation tube. The operation was thus practically at an end. A final washing was being performed, however, when an ominous gurgling was heard, and an unmistakable wave ascended behind the anterior abdominal wall. All resistance, moreover, to the flow from the evacuator had ceased; and on detaching the wash-bottle, only a trifling amount of water escaped by the tube. There could be no doubt that the bladder had given way, and that the best chance of the boy's recovery probably lay in opening the abdomen and sewing up the rent. Accordingly, a three-inch incision was made in the linea alba above the pubes. The peritoneum was opened, and a search was made for the collapsed bladder in the depths of the pelvis, nothing being seen of the bladder until the peritoneum had been traversed. The rent, however, was eventually discovered in front of the peritoneum, and at the root of the urachus. It was also made out that the irrigation-fluid which had escaped from the bladder had infiltrated itself along the subperitoneal connective tissue, none of it having entered the peritoneal cavity. The rent in the bladder—which was about one-eighth of an inch long—was sutured, and the abdominal wound was closed. It was deemed expedient to secure absolute rest for the bladder by a perineal drain. A lateral incision was therefore made through the prostate, and on passing the finger through it into the bladder a few insignificant fragments of stone, which were to have been removed by the final washing, were detected. The boy died of collapse in about eight hours. Mr. Owen attributed the calamity to the fact that in the temporary absence of a wash-bottle of a size appropriate to childhood he was using one designed for the adult. He had no extenuating circumstances to urge. The case had been a great grief to him, and he had come to the conclusion that the only way in which he could atone for the misadventure, in however slight a degree, was by openly reporting it. Perchance his experience, thus being placed on record, might be the means of averting a similar catastrophe at the hands of others.

Surgeon-Major KEEGAN of Indore then read a paper on Litholapaxy in Children, which he illustrated by specimens of calculi and various instruments. We give here an abstract of the communication. The collection which he showed consisted of 117 out of 125 litholapaxies which he had performed in males below fifteen years of age. They varied from one year and nine months to fourteen years, the average being 6·38 years. The average weight of the calculi removed was 89·15 grains. The average number of days spent in hospital after operation was 4·6, and the percentage of mortality was 3·2. The four deaths were not the result of any accident during the operation, but were due in each case to organic disease of the kidneys. There was but one recurrence of stone in the series, and this was not more likely to happen than in lateral lithotomy, provided no detritus was left behind. This absence of recurrence in children was due to the fact that their bladders were seldom hypertrophied, sacculated, or fasciculated, and they did not, of course, labour under enlargement of the prostate, which were the main causes of recurrence in the aged. He gave preference to this procedure over the lateral, median, and supra pubic operations for two reasons: the rapidity of cure and the freedom from the objections and dangers inherent in all surgical operations in which the knife was used. But though he thus advocated crushing in preference to cutting, he could not recommend surgeons who had had no experience of the former operation to attempt it on a young male child the subject of a calculus of considerable size and hardness. Such a surgeon would act more wisely if he adhered to the lateral or supra-pubic methods of procedure. He also showed a collection of lithotrites and evacuating catheters, and one or two aspirators. He held that no surgeon should set about attempting to perform litholapaxy on a child trusting to one lithotrite and one evacuating catheter; for a lithotrite which would pass readily enough into a boy's bladder at the beginning of an operation might not do so towards its termination, when the urethra had perchance become swollen and congested by the frequent passage of instruments. He showed five lithotrites, Nos. 4½, 5, 6, 7, and 8, and five evacuating catheters, Nos. 5, 6, 7, 8, and 10; also two aspirators. For most cases two or three lithotrites and three cannulæ would probably suffice. Fully fenestrated lithotrites should be used, and cannulæ fitted with large stylets to prevent clogging with débris. He had found by experience that the narrowest part of a child's urethra, except the meatus, was at the junction of the penile with the scrotal portions, about two and a half to three inches from the meatus. His manner of procedure was as follows. The child's bladder should be emptied of urine and two or three ounces of water at blood heat should be thrown in. When the lithotrite had been withdrawn after the crushing, the cannula fitted with a stylet was introduced. The stylet being withdrawn, nearly all the water in the bladder was allowed to drain off. The aspirator, filled with water at blood heat, was then attached to the cannula, and an assistant pressing gently over the bladder, the aspirator was steadily and gently worked. The stylet should be run home before the cannula was removed, the last particles of stone being first well searched for. A finger introduced into the rectum would frequently be found to dislodge some small fragments resting near the neck of the viscus. The height of the operating table should be such that the surgeon should not be compelled to stoop. A light hand was essential, and anything approaching to forcible introduction of lithotrites or cannulæ into the bladder was fraught with danger. To illustrate what had been stated he briefly sketched the salient points connected with the operation of crushing a few out of the large number of stones he exhibited. (Particulars of these cases will be found in THE LANCET, vol. ii. 1890, pp. 716–717.) He likewise showed the débris of calculi from girls aged respectively three and seven, and a few large ones from his collection of stones from the adult male bladder. In conclusion, he emphasised the necessity of attention to the details of structure of the instruments employed already mentioned above, and added that four or five ounces of water should be the maximum quantity in the bladder at any given moment, injection never being practised while the patient was straining, that extreme gentleness and care should be taken in practising all manipulations in the bladder and urethra, and that it should be ascertained that not a grain of débris was left behind in the bladder. Upon attention to all these conditions would depend the measure of success obtained.

The PRESIDENT asked if these cases came from a large or from a restricted area, and if stone was particularly prevalent in Central India. Was its formation connected with the diet, and was he in the habit of prescribing to prevent recurrence of the calculus.

Mr. MARSHALL of Nottingham said he had been very

pleased with the result of his lateral lithotomies, having had twenty-six without a death. He had performed one supra-pubic operation, which proved fatal. But an increasing experience of litholapaxy in children made him feel that it must be the operation of the future; the rapid way in which they recovered in three days instead of an average of three weeks, as with lithotomy, being a great point in its favour. He had only had one untoward circumstance with lithotomy: his lithotrite bent when he was crushing a white oxalate stone. He therefore removed the instrument, and performed a lithotomy instead. He could not see the advantages of the supra-pubic over the old lateral method. With the exception of one case of hæmorrhage, one of fistula, and three or four of incontinence, he had had no trouble at all from his cases of lateral lithotomy. As to the question of emasculation by the lateral operation, he knew of no data bearing on that point, but amongst the fathers of the boys he had cut were two who had also been cut for stone. The supra-pubic was said to be an easier method, but he did not admit that it was freer from danger, and so few of the cases that had been operated on had been published. With regard to recurrence, he had had only one, and that was amongst his earlier cases, where the stone had been crushed imperfectly. He asked Mr. Keegan if he regarded chloride of sodium as a preventive of stone, and if the abuse of the farinacea and abstention from water were causative agents.

Mr. MORGAN said that in children a cutting operation should if possible be avoided, and though the lateral operation was successful, nevertheless certain calamities resulted from it. Hæmorrhage, for instance, to a serious extent had happened, and he recollected five or six cases of fistula between the bladder and the rectum. As to emasculation, tangible proof had been given of its occurrence. The supra-pubic operation was not to be advised save under exceptional circumstances, such as where the stone was too large or constantly avoided the lithotrite. The objections to litholapaxy were none where the stone was suitable. Practically no force was necessary to bring out the fragments with the aspirator, the slightest pinch causing extensive movement of the fragments. The only objection to the procedure that had been made was that small fragments might remain and form a nucleus for a fresh calculus. In London but very few cases presented themselves, the average at Great Ormond-street being only four and a half per annum.

Mr. BUCKSTON BROWNE held that all honour was due to Mr. Owen for his surgical honesty in publishing his case. He did not expect to hear that the rupture was extra-peritoneal. As the incision was being made he asked Mr. Owen if he noticed water in the tissues, and he inquired also the reason of making the perineal opening. The proper performance of lithotrity depended upon complete anæsthesia, so that the patient could not strain. This was especially important when washing out was being done. With regard to the evacuating catheters shown, he thought that for children they might be shortened one half, and thus get the stone over in less time. It was useful to have a clean spare aspirating bottle to use for the last washing, and thus make absolutely sure of emptying the bladder of fragments.

Mr. REGINALD HARRISON said that he was sceptical as to the application of lithotrity to such young subjects until Mr. Keegan's paper was published. He had performed the lateral operation thirty-five times on children with a mortality of only one, and he had no complication or after consequence which had been cause of regret. The facts, however, which had been brought forward were of such a cogent nature that he was induced to take to lithotrity, and the more he had seen of it the more he could recommend it. He had performed it thirteen or fourteen times, and the results as to rapidity of recovery compared most favourably with the lateral operation. He had, however, only used it at present for comparatively small stones.

Mr. OWEN, in reply, asked Surgeon-Major Keegan if he had ever met with a medium-sized stone in a child which he had been quite unable to crush, and for which lithotomy had to be done. He himself had met with such a case; the calculus being of the mulberry variety. It had been said that the supra-pubic operation had no statistics, but more appalling results than those published from Russia could not be imagined. He would put the operation altogether on one side, and use the lateral operation for children where litholapaxy could not succeed. He noticed water in the extra-peritoneal tissue as he cut down. The incision in the perineum was perhaps a mistake, but it should be remembered that he had already opened the peritoneum, and that therefore a very efficient drain was desirable.

Surgeon-Major KEEGAN, in reply, said that stone in Central India was common, and that a number of dispensaries fed the hospital of which he had charge in Indore. The number of cases of calculus in the whole of Madras probably did not amount to more than 24 a year, while in Scinde and Hyderabad there were as many as 180 or 200. In Lower Bengal stone was not common, but it was very prevalent in the North-West Provinces, in the Punjaub, and along the Bombay coast. He was unprepared to state the cause of stone, though no doubt food, geological formation, clothing, and meteorological conditions all played a part in its production. On one or two occasions he had seized a stone which he had failed to crush, and so he had resorted to lateral lithotomy. His first fatal case of litholapaxy he published in the *Indian Medical Gazette* in 1888, the death being due to disease of the kidneys, but no post-mortem examination was allowed. He hoped that those who had performed the supra-pubic operation for cases of small stones would also place their cases fully on record.

OBSTETRICAL SOCIETY OF LONDON.

Presidential Address.

A MEETING of this Society was held on March 4th.

The following specimens were exhibited:—

Mr. BLAND SUTTON: A case of Tubal Pregnancy.—Dr. HAYES: (1) An Intra-uterine Sessile Polypus; (2) Sub-peritoneal Pediculated Fibroid Tumour of the Uterus.—Dr. CRAWFORD: Ovarian Tumour, with a Polypus in the Uterus, and a Small Tumour and a Fibroid Tumour.—Dr. GRIGG: (1) Cyst (Tubo-ovarian?); (2) Pyo-salpinx complicating Pregnancy; (3) Double Pyo-salpinx, with Tubo-ovarian Cysts; (4) Matted Appendages.

The PRESIDENT (Dr. Watt Black) then delivered his address. He thanked the Society for the honour conferred upon him. He congratulated them upon the prosperous condition of the Society. He then dealt with the subject of puerperal fever and septic poisoning. In ancient times puerperal fever had been described as suppression or retention of lochia. It had been referred to in the seventeenth century. According to Copland, the first satisfactory account of it was contained in Halle's "Dissertatio de Febre Puerparum" published at Leyden in 1689. The first writer who had given an adjectival name to puerperal fever was Richard Morton. Edward Strother was the first writer who used the name "puerperal fever." The numerous outbreaks of puerperal fever which had occurred in the second half of the last century had led to the production of a considerable number of monographs on the subject, especially in this country. The chief of the writers were John Hall, 1755; Thomas Denman, 1768; Nathaniel Hulme, 1772; Charles White, 1773; John Leake, 1773; Thomas Kirkland, 1774; William Butler, 1775; Philip Pitt Walsh, 1787; John Clarke, 1793; and Alexander Gordon, 1795. In these writings puerperal fever was referred to as erysipelas, putrid fever, putrefactive fever, pituitous fever, bilious fever, gastrobilious fever, typhus fever, typhoid fever, nervous fever, inflammatory fever, peritoneal fever, hysteritis, uterine phlebitis, lymphangitis, and many different diseases such as existed under other circumstances, but modified by the puerperal state. References were then made to the writings of Dr. Nathaniel Hulme and Dr. William Butler. Puerperal fever had been attributed to many causes. Amongst them might be mentioned suppression, retention, and putrefaction of the lochia, retention of secundines, retention or metastasis of milk, severe labour, tight binder, rising too soon after delivery, mental emotions, errors of diet, use of stimulants, exposure to cold, epidemic influence, miasms, and hospital air. Veson attributed the mortality at the Hôtel Dieu to the fact that the lying-in ward was over the ward for the wounded; also that the number attacked with puerperal fever was greater when the air was moist. Dr. Kirkland had recommended that the patient should sit up two or three times a day in order to facilitate discharge of the lochia, clots, &c. Charles

White, F.R.S., surgeon to the Manchester Infirmary, was the first to assert the infectiousness of puerperal fever (1773). Other writers had previously discussed it, but only to discard it. Some supported the view, but it was Dr. Alexander Gordon of Aberdeen who brought facts to prove its infectiousness. He also had given an admirable account of the relation of erysipelas to puerperal fever. In 1851, when forty-five cases of puerperal fever occurred in the practice of one man, while none of the patients of the other practitioner in the same place had been attacked, no other explanation had been required than that it was a dispensation of God's providence. A belief in its infectiousness had led to precautions being taken, and thus outbreaks had been frequently arrested or checked. The next most important advance was the tracing by Semmelweis of the infection to the introduction of decomposing animal matter into the genital passages by the attendant. The revelations of bacteriology and the proved prophylactic efficacy of antiseptics have set the question at rest. Many interesting facts in bacteriology were then given. The experiments of Ahlfeld were related, in which he showed that the inner surface of the uterus possessed its greatest absorbent power on the third, fourth, fifth, and sixth days after labour. Edmund Falk had also shown that the endometrium possessed remarkable absorbent powers, while the vagina had very little and the mucous membrane of the cervix scarcely any. It had not yet been ascertained to what cause was due the great diversity in the anatomical changes produced by puerperal fever in different cases. In all cases of puerperal fever microbes of the coccus order were to be found, and most frequently of all the streptococcus pyogenes. As the microbes came from outside, the autogenetic origin had been virtually abandoned. Of late, however, it had been revived in a modified form. Czerniewski had examined the uterine lochia of eighty-seven perfectly healthy women, and had found no microbes of any sort, except in one case in which there were streptococci, and in two cases in which there were the bacillus subtilis and sarcinæ. He had examined the uterine lochia of seventy-seven women suffering from slight illness, and had found streptococci in forty-nine, staphylococci in two, and non-pathogenic forms in a few others. He had examined the uterine lochia in ten women who were suffering from severe illness, and had found streptococci in all. Homen found the number of bacteria much greater in the first day of menstruation than before menstruation had begun. Dr. William Taylor of Edinburgh believed that he could trace certain cases of puerperal fever to the want of proper cleanliness on the part of nurses who happened to be menstruating at the time. The results of experiments by several observers were then given. Hausmann had found that serum from the body of a person who had not died of septicæmia did not produce fatal results when introduced into the vagina of gravid rabbits, while pus from the abdomen of a woman who had died of puerperal fever had proved rapidly fatal when similarly injected in the second half of pregnancy. It had no effect when injected into the vagina of rabbits only two weeks pregnant. The conversion of non-pathogenic into pathogenic microbes, under altered conditions, was then referred to; also the relative resistances of healthy and diseased or injured tissues to the influence of microbes. The influence of microbes in the production of mastitis and of various infantile diseases was fully described. Natural immunity was next discussed, as well as acquired immunity, or the exhaustion theory.

A vote of thanks was given to Dr. Watt Black, on the motion of Dr. Playfair, seconded by Dr. Champneys.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

A MEETING of the State Medicine Section was held on Feb. 13th.

The Midwives' Registration Bill.—In the absence of Dr. Atthill through illness his paper, on the Education of Midwives considered in connexion with the Midwives' Registration Bill, was read by Dr. COSGRAVE, hon. sec. of the Section.—Dr. FOOT thought it would be the duty of the Medical Council to lay down regulations for the education of midwives. The chief interest of the discussion would lie in the direction of the points of contact between the proposed educated midwives and the general practitioners.—Dr. QUINLAN said that as the Bill did not extend to Ireland it appeared to him that the principal point was to protect the right of practising in England and Scotland, now belonging to the diplomated midwives and nursetenders who had been licensed by the two chartered Dublin hospitals, and also by the Royal College of Physicians of Ireland. At present these Irish diplomates were legally authorised to assume the title of midwife in any part of England and Scotland. If this Bill were passed, the rights of these diplomates would be swept away in the two sister kingdoms. He thought that the institutions referred to ought to see to this either by petition or some other way.—Dr. J. W. MOORE severely criticised the Midwives' Registration Bill, more particularly in reference to the unsatisfactory provisions contained in it for the framing of rules respecting the examination of midwives, the appointment of examiners by county councils, and the wholesale registration of existing midwives for a fee not exceeding 2*s.* 6*d.* The Royal College of Physicians of Ireland had taken active steps against the present Bill on public grounds, and had urged the necessity of referring the whole subject of the education and registration of midwives to a Select Committee of the House of Commons before legislation on so momentous a matter is undertaken. The speaker considered that this was the wise and proper course to pursue.

Note on Illness caused apparently by Aniline Coloured Sweetmeats.—Sir CHARLES CAMERON, after pointing out that numerous cases of illness had been attributed to aniline colours used in clothing and for colouring food, explained that the toxic action of the dyes was generally attributed to the arsenic used in the preparation. The author had investigated three distinct cases of illness in which the symptoms were attributed to the use of coloured confections. The children in three distinct families were taken ill with vomiting and purging after eating coloured comfits and sugar balls. Some of the cases were treated in Mercer's Hospital. Analysis revealed in the confections no mineral poison; but it was noted that the colouring matter was very large in quantity. It proved to be fuchsine. The author thought that these cases rendered it not improbable that fuchsine might be toxic even when free from arsenic.—Dr. FOOT said he thought the injurious effects of aniline dyes, especially fuchsine, might be due to the affinity for this colouring matter on the part of the protoplasmic matter of cells, which imbibition and staining might reasonably be expected to interfere with their physiological or biological action, and therefore be detrimental to various bodily functions.—Dr. QUINLAN said that the colouring of confectionery was a very interesting subject. One of his earliest recollections was the banquet given in Dublin to the soldiers coming from the Crimea. On that occasion the tables were decorated with confectioned edifices, which, perhaps, contained as much plaster-of-Paris as sugar; in compliment to this country, they were mostly coloured green, that colour being due to Scheele's green. Through a window left open for ventilation the boys of the locality got in after the banquet, feasted on the confectionery, and as a result there was extensive arsenical poisoning. Fortunately, none of these cases proved fatal, but they gave great anxiety. He thought that the use of aniline colours in confectionery was much to be deprecated. Aniline colours were very powerful, and very small quantities were required for colouring confectionery; still, we have available vegetable and animal colours which are absolutely safe; and with these resources he thought that aniline colours ought to be let alone until, at all events, we knew more accurately the details of their toxic effects. Of course, it was unnecessary to add that the use of metallic pigments by the confectioner was simply a crime which ought to be severely punished in all cases where it was detected.—Dr. FALKINER and Dr. LENTAIGNE also spoke.

Civil Service Insurance Scheme.—Dr. MACDOWEL COSGRAVE read a paper on the recently instituted Civil Service Insurance Scheme. The committee of the Civil Service Insurance Fund have arranged with the North British and Mercantile Insurance Company to insure, up to £1000, the lives of all civil servants applying within two years, without any medical examination, without any declaration of health, and without any reference to friends. After the two years have expired all joining the Civil Service will be insured on the same terms any time within five years of having passed the medical examination made on entering the service. In both cases a reduction of 15 per cent on the first premium and on renewals is given. The author pointed out the probable result,

that whilst bad lives—i.e., those rejected or required to pay higher premiums by other offices—would be certain to take advantage of this chance, first-class lives would probably prefer offices taking only healthy lives, and so more likely to pay good bonuses. Several lives rejected or loaded by the author, which had since entered under the new scheme, were cited. If the scheme succeeded, it would cause other companies to relax their medical examinations, and would tend to place insurance in the hazardous condition it occupied early in the century. It would also injure first-class lives by putting them in the same category with the indifferent and bad lives.—Dr. LENTAIGNE was greatly interested in Dr. Cosgrave's paper; he would add that he felt very uneasy at what seemed to him a very reckless and dangerous policy.

Reviews and Notices of Books.

New Official Remedies, containing all the Drugs and Preparations contained in the Addendum (1890) to the British Pharmacopœia of 1885, with Pharmacological and Therapeutical Notes adapted for the Use of Students and Practitioners. By RALPH STOCKMAN, M.D., F.R.C.P.Edin. Pp. 67. London: Percival and Co. 1891.

THE above title, expressed in every possible variety of type, appears almost sufficiently cumbersome to weigh down a book of such small size, and yet has apparently only been decided upon as an afterthought, since it differs from the title given on the first page of the text. Here we find "New Official Remedies contained in Pharmacological and Therapeutical Notes on the Addendum (1890) to the British Pharmacopœia of 1885." Both titles seem rather unhappily chosen. The remedies are scarcely "contained in" the Notes any more than the drugs and preparations are "contained in" the Addendum. Under any other name the rose would smell as sweet, so perhaps the definition attempted is scarcely worth troubling about. The book is apparently intended to supply a guide to those to whom the Addendum to the Pharmacopœia has come with a shock of novelty. The pharmacological notes seem to have been compiled with a certain degree of care from numerous well-known authorities. Although the prefatory note says nothing of the indebtedness of the author, it is easy to trace the source of the various quotations. The therapeutical notes are less satisfactory. It is difficult to determine whether the author thinks that the time is hardly ripe for dogmatic statements, or whether he feels that the pharmacological action is of such importance that the question of therapeutics may be comparatively neglected. Certain it is that in too many instances the account of the therapeutic uses, as given here, fails to afford sufficient justification or explanation of the need of the Addendum. The Pharmacopœia was never intended merely as a collection of substances possessing interesting pharmacological actions, and yet the impression left by this book is that the author regards the Pharmacopœia as a pioneer, opening up new districts for further investigation.

The alphabetical arrangement of the Addendum is closely followed; the only deviation being the grouping of the official preparations under the heading of the various substances from which they are obtained. An interesting account of acetanilide gives in some detail the explanation of the term "phenylacetamide"; in the description of the tests, however, it is left doubtful whether the perchloride of iron test is to be applied to a hot or a cold solution. In this the first issue of the Addendum is followed, although the error was indicated in Squire's Supplement and corrected in the subsequent reissue of the Addendum. The account of the pharmacological action of acetanilide is very full, though, perhaps, greater space might have been found for the interesting discussions which have been raised upon the reduction of temperature in fever. The possibility of "increased heat-dissipation" appears to merit more than the bare mention. Its therapeutical uses are considered under two headings: as an antipyretic, and as an analgesic, but no mention is made of its employment as a hæmostatic. In the consideration of the treatment of poisoning by this substance a serious warning is given against the administration of alcohol by the mouth, "as it dissolves up the antifebrin and hastens its absorption." This is curious, as immediately above directions are given for emptying the stomach and bowel, after which, if efficiently performed, there should be no such risk as that indicated. With regard to lanoline, although the account is very full, even going back to the "ancient Greeks and Romans," there is an uncertainty of expression which is disappointing. "It mixes well with most drugs, either in solution or powder, and the mixtures are readily absorbed by the skin. It is doubtful, however, whether absorption takes place more readily with it than with lard." And yet a little further on it is stated that "in those cases of cutaneous disease where rapid absorption is a disadvantage, wool fat is, of course, contraindicated." The activity of eucalyptus gum is attributed solely to the tannin it contains, and its utility as a local astringent and styptic is properly indicated. On the other hand, the value of euonymus bark, and the dry extract of euonymus scarcely receive due attention; the beneficial effects deserve more note than the remark "any purgative will relieve the condition, and hence the value of euonymin in these cases." Nor is it quite clear why, after having just stated that "the name 'euonymin' is inappropriate for this preparation," the author should proceed to employ an "inappropriate" term. Of gluside or saccharin the description is short, and not well arranged; the statement that its prolonged use is very apt to cause gastric irritation and dyspepsia is certainly not in harmony with the experience of those who have employed this substance largely and judiciously. The pharmacological and therapeutical notes upon hamamelis are also very brief, and although the properties of hazeline (which is obtained by distillation) are adduced to combat the assertion of Bartholow that the action is due to tannin, this does not advance matters materially, as no single volatile substance is mentioned under the heading of "chemical composition." Hydrastis is dealt with in greater detail, the contrast of the effects of berberine and hydrastine affording greater scope; but amongst the therapeutic uses, it is stated that "Marfori has shown that the frequent administration of small doses keeps the spleen in a condition of constant contraction." Surely it would have been better to indicate in this place in what diseases, if any, it is desirable to keep the spleen in such a condition. Dr. Stockman agrees with most pharmaceutical authorities in disapproving of the composition of the castor-oil mixture. Of phenazone the accounts given are unusually full and satisfactory, but strophanthus is dealt with in a disappointing way. The composition upon which so much work has been done is dismissed with five lines; while about the same space is devoted to its therapeutical uses. Throughout the book signs of undue haste are only too frequently apparent. Perhaps, however, these are sufficiently to be indicated from the change in the title and from the curious misprint on p. 17, where the "alimentary *cancel*" is mentioned. To those unacquainted with recent literature, no doubt the book will be of service.

Studies from the Physiological Laboratory of Owens College, Manchester. Vol. I. Published by the Council of the College, and edited by Professor WM. STIRLING. Manchester: J. E. Cornish. 1891.

WE should have been disposed to name this book vol. ii., since a work with a similar title from the same College was

published in 1877 by Professor Arthur Gamgee. Many of the articles have appeared in other scientific journals, but some are original, and it is very convenient to have all the memoirs that have issued from the Manchester school in a collected form. One of the original papers is by Dr. G. N. Stewart, in which he treats of the conditions which affect the loss of heat by radiation from the animal body. Dr. Stewart shows that the temperature of the surface of the clothes in man and of the hair in animals is a very important element in determining the amount of radiation, and this depends chiefly upon the temperature of the epidermis, the conductivity of the coverings, and the temperature of the air. In small animals, he says, such as rabbits and guinea-pigs, it is astonishing how little an increased heat production can supply the loss of a considerable part of the protective covering, or make up for an alteration in it which increases the outflow of heat. It has long been known that a rabbit dies when its skin is varnished. The superstition still lingers in some text-books that this is due to interference with the excretory functions of the skin. This explanation may perhaps hold good in the case of animals like the horse. It is not necessary in the case of the rabbit and the guinea-pig. For without varnishing at all, if the hair be removed from the greater part of the body of either of these animals by rather close clipping, or still better by shaving, and the animal be kept in an empty box so that it cannot cover itself, it dies in summer weather with an air temperature of 15° to 18° C., and that sometimes in from twenty to thirty hours. Such an animal can be restored to health if before the cooling process has gone too far it is placed in a warm atmosphere. The paper contains much information of a practical character. Dr. Stewart also contributes an article on Electrolysis of Animal Tissues, and shows how and why the process is likely to prove serviceable in various forms of disease—as, for example, in uterine fibroids;—and supplies another important article on Polarised Nerves. Professor Stirling himself contributes a memoir on Red and Pale Muscles in Fishes, which, having been published in the reports of the Scottish Fishery Board, has not probably come under the notice of many readers, though it offers many points of interest. Mr. Cooke, the Platt physiological scholar, describes "the action of various stimuli on non-striped muscle." Mr. Marshall presents a reprint of his observations on the Histology of Striped Muscle, and Mr. J. Edkins describes a Fat-extraction Apparatus. The book is altogether a very good contribution to physiological science, and a creditable result of the work in the physiological laboratory of Owens College.

The Year-book of Treatment for 1891: a Critical Review for Practitioners of Medicine and Surgery. Pp. 480. London: Cassell & Co.

THIS year the bulk of Cassell's well-known Year-book of Treatment is the first thing to strike attention. Hitherto the size of the book has varied slightly, ranging from 300 to 320 pages; but this year a sudden bound has been made, and the book is half as large again as it has ever been. In view of such a change, the prefatory explanatory note that the original plan of the book has not been altered is somewhat reassuring, although it was scarcely necessary to add that it is not intended to be either a dictionary or a text-book on medicine. Four names have dropped from the list of contributors—viz., those of Sir Dyce Duckworth, Dr. Goodhart, Dr. McBride, and Mr. Frederick Treves; and three new names appear—Mr. Barclay Baron, M.B., Mr. Stanley Boyd, and Dr. Archibald Garrod. While many of the sections have an increased space allotted to them, the most noteworthy increases occur in the sections devoted to General Surgery and to Midwifery. Last year these respectively occupied nineteen and twenty-three pages; this year the section on General Surgery is swollen to fifty-six pages, and that on Midwifery to fifty-two—an amount of space which is scarcely consistent with the idea of a concise epitome which has hitherto ruled the production of the Year-book of Treatment.

In dealing with Diseases of the Heart and Circulation, Dr. Mitchell Bruce now adopts a very simple and useful classification. The most valuable portion of this section is that which treats of the selection and employment of cardiac tonics and diuretics; in this a very lucidly written account appears of the work of H. C. Wood, of Nothnagel and of Fürbringer, together with several valuable annotations on Strophanthus by Bucquoy, Moncorvo, and Rothziegel. The question of exercise as a therapeutic agent in cases of chronic cardiac disease had been much advanced by the writings of Loomis, Sansom, and Nothnagel, although Oertel now advocates massage of the heart as a safe method whereby the same nutritive and circulatory benefits are obtainable as from hill-climbing. Dr. Markham Skerritt writes the epitome upon Diseases of the Lungs and Organs of Respiration, and summarises several American views of the value of cocillana as an expectorant. The ice-bag treatment of pneumonia, the open-air treatment of phthisis, and the employment of creasote and guaiacol receive due notice. Necessarily, a great deal is said of Koch's treatment of tuberculosis, but of this the reporter concludes: "It is evident that a long period must elapse before any definite conclusions can be drawn as to the ultimate value of this method of treatment." Tillmanns' very striking case of the surgical treatment of tuberculosis of the lung and pleura is described, but without comment. Dr. James Ross and Dr. Septimus Reynolds are responsible for the section on Diseases of the Nervous System, and at the outset they indicate how largely the published literature has been directed to the treatment of locomotor ataxia and of insomnia. On the whole they speak favourably of suspension for the relief of certain symptoms of tabes, even though it is not to be regarded as a cure. Chloralamide, chloralimide, sulphonal, hyoscine, uralium, somnal, hypnal, and urethane are the more important remedies which have been suggested for the treatment of insomnia. The opinions of Gaudineau and Fraser upon exalgine are followed by a somewhat lengthy list of cases in which this drug is considered to have produced toxic effects. Dr. Maguire's account of Diseases of the Stomach, Intestines, Liver, &c., is usefully critical, and the same applies to the work of Dr. Ralfe, Dr. Archibald Garrod, and Dr. Sidney Phillips. The section on General Surgery, as above indicated, appears rather lengthy, but a large amount of space is devoted to the discussions which resulted from the publication of the report of the second Hyderabad Chloroform Commission. Amongst the very numerous important advances which may be mentioned here are those connected with abdominal surgery, more particularly those dealing with intestinal obstruction and perityphlitis. Pressure of space compels us to pass over the sections by Mr. Walsham, Mr. Edmund Owen, Mr. Reginald Harrison, Mr. Alfred Cooper, Dr. Berry Hart, Dr. Herman, Mr. Malcolm Morris, Mr. Henry Power, Mr. George Field, and Mr. Barclay Baron, M.B. These writers are in most instances sufficiently well known for their names to ensure thorough and careful work. The volume concludes as usual with a summary of recent therapeutics, chiefly in reference to new remedies, compiled by Dr. W. G. Smith.

Viewed as a whole this book forms a very worthy successor to those which have preceded it, and it will doubtless be received by the medical profession with the favour extended to the volumes of previous years.

Diabetes: its Causes, Symptoms, and Treatment. By CHARLES W. PURDY, M.D., Queen's University. With Clinical Illustrations. Philadelphia and London: F. A. Davis. No. 8 in the Physician's and Student's Ready Reference Series.

THOUGH we know very little about the immediate or remote causes of diabetes or of the true remedial methods to be employed for its cure, the literature connected with the subject is very extensive, and the views advanced by many workers in different countries are numerous and varied. The subject is one, moreover, which is specially fitted for investigation by physiological experiment and by wide observations amongst different races and in various climates. Added to these features is the fact that cases of diabetes are not of everyday occurrence, though they are met with often enough to excite the interest of every practitioner, and the manifestations of the condition are often more remote and indirect than are the symptoms of many better defined diseases. All these things tend to render the study of diabetes very difficult to those who have not the advantages of leisure and literary opportunities, and, to such, a volume of this kind is of inestimable value. The work has been well sifted, so that the mind is not confused by too many or too trivial statements, but the attention is concentrated upon the main facts and currents of opinion which are given in a very lucid style without the sacrifice of conciseness. The various observations and opinions are so marshaled that it is easy to see how far they support or are consistent with one another, and the gaps in our knowledge, where they exist, are sufficiently distinct, though sometimes filled in with conjecture.

A statistical report shows that during forty years the mortality from diabetes in the United States has increased from 72 to 191 per 100,000 deaths, and the statistics on which this statement is based afford a very valuable comparison between the death-rates in the different States whose climates vary widely in temperature, humidity, and elevation. The States offer another advantage in the several races which occupy their territories, and a consideration of the subject shows that the incidence and severity of diabetes vary greatly among the different races.

The chapters into which the subject naturally divides itself are well written, and Dr. Purdy, besides supplying a comprehensive epitome of diabetes in its various forms, writes of the disease from points of view that are both novel and suggestive. The notes of cases appended furnish excellent illustrations of the features recorded in the text, and the publishers of the "Physician's and Student's Ready Reference Series" are to be congratulated on the addition of this volume to their list.

LITERARY ETHICS

To the Editors of THE LANCET.

SIRS,—I forward you some correspondence upon a subject of great importance to authors, which I trust you will insert in an early number of your journal.

I am, Sirs, yours faithfully,

Grosvenor-street, March 16th, 1891. THOMAS BRYANT.

DEAR MR MOULLIN,—My attention having been drawn to your work on "Surgery," I have been looking over it, and find that you have utilised in a very free way the drawings I had made for my own work on "The Practice of Surgery," all of which were copied from either original drawings or from those at Guy's Hospital. As I read in your preface that you had Messrs. Churchill's permission to use the blocks made from my drawings and which belong to them, I can probably find no fault with your having done so; but I must venture to express my supreme surprise that you should not have recognised the necessity of acknowledging the source from which you drew them, and so of guarding against the imputation to which you have exposed yourself of passing off upon the uninitiated my drawings as your own. You may possibly have been led into this error by the fact that of late years this kind of acknowledgment of other men's work has often been forgotten; but surely the sins of others in a small way can in no sense justify such a wholesale appropriation of my work as you have been guilty of without acknowledgment. I regret much to have been obliged to call your attention to this blot upon a book which in other respects may be worthy of commendation, and shall be glad to hear from you on the subject.

Yours faithfully,

C. W. M. Moullin, Esq. THOMAS BRYANT.

Wimpole-street, W., March 11th, 1891.

DEAR MR. BRYANT,—I am exceedingly sorry you should think I have been guilty of discourtesy or of any intention of appropriating to myself work done by others. I had understood from the publishers that, provided I made an acknowledgment in the preface, I was at liberty to make use of the blocks illustrating your book, in the same way as those of Fergusson and Astley Cooper. I can only express to you my deep regret that I should have misunderstood them to such an extent. Immediately on the receipt of your letter I went to consult them, and I have arranged that the preface shall be cancelled at once, and that a new one shall be written specifying the illustrations that I have appropriated.

May I ask you, therefore, kindly to look over the list of illustrations in the copy of my work that I am sending with this? I have marked either with "Life" or "Bryant" all those of the origin of which I am certain; but would you let me know whether the others I have marked in pencil, which were printed from blocks in the publisher's possession, were all of them made from originals of yours? I cannot tell you how deeply I regret the occurrence, and I trust you will think that I am doing my best to amend it.

With kind regards, Yours faithfully,

C. W. MANSELL MOULLIN.

Grosvenor-street, March 12th, 1891.

DEAR MR MOULLIN,—I have done what you asked and marked with my initials one hundred and forty-one (141) of the illustrations in your book which have been printed from blocks made and used for my "Practice of Surgery." In doing this I have found that I am the only living author from whom you have borrowed (?) woodcuts without acknowledgment. Can you explain how this came to pass? Was it by accident or design? You say in your note of yesterday that you have been misled by your publishers, but I can hardly accept such an excuse as valid, although you might fairly have expected them to have saved you from such an error as you have committed. You have, however, made good use of my woodcuts, for many chapters of your book would have been poorly illustrated without them. What you propose to do with your preface in future numbers may be of some service, but it cannot undo the evil you have done, for any student of your book will as he reads take my woodcuts for your own, as there is nothing to distinguish them. If you have any further remarks to make upon this wholesale piracy of my work I shall be glad to have them. Yours faithfully,

THOMAS BRYANT.

Wimpole-street, March 13th, 1891.

DEAR MR BRYANT,—The list of illustrations is being printed again with your name attached to all those that you marked. The number of copies issued at present is under one hundred. The new list shall be inserted in all the rest in place of the old one.

I am, yours faithfully,

C. MANSELL MOULLIN.

Any comments upon these letters are unnecessary; they speak for themselves. T. BRYANT.

CLEVEDON.—The work of the Convalescent Home is to be extended by a third house, Montpellier, Highdale-road, being added as a home for men; Belmont and Ellacombe, the two former homes, being reserved for women and children. This will afford considerable extra accommodation, but will also entail at least £150 per annum more expense, besides alterations and furnishing.

THE LANCET.

LONDON: SATURDAY, MARCH 21, 1891.

THE voluminous reports[1] which have just been issued, at the request of the Prussian Government, from the University clinics and pathological institutes of that country, afford an opportunity for reviewing the situation with regard to the efficacy of the remedy for tuberculosis introduced by Professor KOCH. It must, however, be noted that these reports for the most part deal only with cases injected up to the close of the year, and therefore do not embrace much more than a period of observation extending over six or eight weeks. It says much for the eagerness with which the remedy was adopted that the total number of patients injected in the fifty-five clinics amounted to no less than 2172, of which number about 1700 may be regarded as having been under treatment sufficiently long to afford some indication as to the efficacy of the plan. At the same time this unique testing of a new remedy, and this remarkable example of collective investigation, cannot be considered as embodying a conclusive judgment. For the reports, which bear names of men of well-tried capacity and experience, are mostly cautious and guarded in their conclusions—all admitting the impossibility after so brief a trial of arriving at a positive result; added to which is the fact that in many instances there has been no selection of cases. Thus, as regards phthisis, it is clear that the essential condition imposed by Professor KOCH to obtain a curative result—namely, that the cases treated should be quite in the initial stage—has been far more honoured in the breach than in the observance.

It would be a difficult and wearisome task to analyse the contents of this bulky volume in any detail, even if our space afforded it. The book is within the reach of all interested, and it will doubtless receive careful study at their hands. Nor shall we attempt to reproduce any of the elaborate statistics which give in striking form the number of cases treated, their nature, and the extent to which they were influenced for good or ill by the use of the new method. All we can do here is to avail ourselves of the admirable summary of the reports compiled by the editor, Dr. ALBERT GUTTSTADT, and to extract therefrom some of the chief opinions expressed by eminent authorities as to the value of tuberculin in the diagnosis and treatment of tubercular diseases. For this purpose it will be convenient to follow Dr. GUTTSTADT's plan, and deal in turn with cases of internal tuberculosis, and then with those of tubercular disease of external parts.

The importance of a new aid to the diagnosis of tubercular disease within the body is obvious, not only as enabling one to differentiate it from allied conditions, but as a guide to the early adoption of therapeutical measures. In KOCH'S "tuberculin" it was hoped that we should possess a divining-rod which would reveal the hidden foci of an insidious malady; and there were many who declared that therein would lie its chief value. Experience, however, as embodied in these reports, compels but a guarded acceptance of this opinion. A few observers, such as Professors LICHTHEIM and SCHREIBER of Königsberg, and Dr. P. GUTTMANN of Berlin regard it as an efficient test, but Professor LEYDEN (Berlin) thinks it cannot be solely relied upon, and Professor GERHARDT says that no reaction was observed in some cases when bacilli were present. Professor EBSTEIN (Göttingen), who appears to have been the least impressed of all with the value of the remedy, does not think there is any absolute certainty in its use for diagnostic purposes. Professor BIERMER (Breslau) is also very cautious; he had two cases of undoubted tuberculosis with bacillary expectoration which gave no reaction, either local or general; whilst in another case, of alcoholic tabes, with no suspicion of tubercle, there was a marked general reaction. Professor QUINCKE (Kiel) thought it gave more certain indications in cases of slight lung disease, but could not admit that there was latent tubercle in every case in which a general reaction followed the injections. The Greifswald professors—MOSLER, STRUBING, and PEIPER,—speak with somewhat more confidence, whilst Professor SCHULTZE of Bonn thinks it a test "within limits," and Professor WEBER of Halle that it is far less certain diagnostically in internal than in external tubercle. Professor FINKLER of Bonn met with but few exceptions to the rule of reaction among cases of commencing phthisis, and did not regard the absence of reaction in chronic phthisis as diminishing its value in diagnosis. Lastly, Professor RUMPF (Marburg) believed it was a test which should always lead to greater care in physical exploration of the chest and in the search for bacilli. On the whole, then, it would seem as if the position taken by Professor LEYDEN was the correct one. There is general agreement as to the fact of reaction (local or general, or both) whenever tubercle is present, thus bearing out the singular selective property of the substance; but cases have undoubtedly occurred in which in the presence of tubercle there has been no reaction, or in which the converse has obtained. The reaction therefore is not pathognomonic, and the test cannot be absolutely relied upon.

The experiences gained of the value of tuberculin as a therapeutic agent will be eagerly scanned. The unreasonable hopes excited on the first announcement of the discovery have in many minds given way to almost as unreasoning a rejection of its utility; and it must be admitted that these reports, on grounds above stated, are inadequate to determine the question one way or the other. Still, when every allowance is made for the duration of the treatment, for the elimination of cases which were wholly unsuitable for trial, or of those in which improvement might well have taken place without any other than dietetic treatment and good nursing, there is no gainsaying the fact that the results here given are on the whole favourable to the cautious use of tuberculin in phthisis. Professor LEYDEN abstains from giving any definite judgment, and notes that, although cases of early phthisis improved, yet the change was not striking, and bacilli were still being

[1] Die Wirksamkeit des Koch'schen Heilmittels gegen Tuberculose. Amtliche Berichte der Kliniken, Polikliniken und Pathologisch-anatomischen Institute der Preussischen Universitäten. Berlin: Verlag von Julius Springer. 1891.

expectorated. Professor SENATOR, on the other hand, is more hopeful, especially if a longer period be allowed for the treatment. Indeed, the cases of "cure" in the records are so few as to hardly enter into the reckoning; whereas the cases of *marked* benefit were considerable, and those of "improvement" without such qualification still more numerous. Professor EBSTEIN, to be sure, is sceptical even as to the latter, but he stands almost alone in this respect. Professor BIERMER cites a case of tubercular pleurisy with effusion, which rapidly got better under the treatment. Dr. P. GUTTMANN, of the Moabit Hospital, who worked in conjunction with Professor KOCH, is the one who gives the most striking results of improvement in these pulmonary cases; and others, as Professor LICHTHEIM, regard the results as remarkable. One cannot fail to be struck by the fact that the improvement was often more manifested in the general condition of the patient, and especially in his subjective sensations, than in the local signs as derived from physical examination. The indications derived from auscultation and percussion have been variable. Some report a frequent diminution in the dulness and râles; others note an increase in these signs, but often independently of the more constitutional effects. There is a preponderance of testimony to the influence the treatment had in diminishing or wholly arresting night sweats; whilst the observations on the sputum fairly agree in the fact that after the first increase in its amount and its bacillary constituents, it generally diminished in both respects. Some lay stress on the degenerative changes undergone by the bacilli, but others (more correctly) think such changes of no special significance. There is a not inconsiderable difference as regards the question of the weight of the patients under treatment, for whereas some state that a certain proportion gained in weight, others note that this never increased, and that it either remained stationary or there was a loss (MOSLER). Dr. FRAENTZEL says that as a rule there is loss in weight so long as reaction occurs, and after that a gain. Dr. GUTTMANN notes that many patients increased in weight, some notably so; and Professor GERHARDT, dealing with sixty-one cases, gives twenty-two as gaining, seventeen as stationary, and twenty-two as losing, in weight. These are only a few of the conclusions arrived at with respect to the most interesting question of the applicability of the remedy in pulmonary phthisis. It must be remembered that the most favourable results occurred in those in whom the disease was least advanced; but that the proportion of cases in which "no improvement" took place was not strictly in harmony with the extent of the disease may be gathered from the following record: of 242 cases of commencing phthisis, 93 were not improved; of 444 cases of moderately advanced phthisis, 278 were in this category, together with 11 deaths; and of 246 very advanced cases, with cavities, there were 162 unimproved, and 30 deaths. It will be seen that there is very little difference, except in respect to mortality, between the two latter series. It must also be remembered in estimating the degree of improvement in the early stages—and, indeed, in all classes—that the hopes excited by the new treatment may in some cases have led to a temporary rally of the forces of the patient without any real material advance towards the cure of his malady. When all is said, however, it would seem that tuberculin has a place in the treatment of pulmonary tubercle, but one which is much more limited than was at first thought likely; and if the catalogue of cases which do not improve under it is to be in any way diminished, it will have to be by a most careful discrimination in the selection of suitable cases. The problem is whether the advantages derived from its use are sufficient to counterbalance the possibility, so strikingly brought forward by Professor VIRCHOW, of harm arising from the use of an agent that exerts a disintegrating action upon tubercular deposits. The opinions expressed in the late prolonged debate at the Berlin Medical Society represent, we imagine, more clearly the standpoint at which the remedy is regarded at present than do the reports contained in the volume before us, which were the first fruits of the discovery.

So far we have confined our survey of this interesting work almost solely to pulmonary phthisis, perhaps the most difficult class of tubercular disease of all upon which to obtain a definite judgment. Next week we propose to deal more especially with the other forms of tuberculosis in which the remedy was employed, and in some of which the results have been more satisfactory.

TWO Bills relating to the public health administration of London have now been published, the one consolidating the many London Acts, the other an amendment Bill which gives to the metropolis not only most of the advantages now possessed by urban authorities in England and Wales, but in some respects places it in advance of all other districts in the kingdom. The powers for dealing with nuisances are very comprehensive, and in future the fact that a condition is "dangerous to health" is to warrant proceedings for its removal. The County Council is, moreover, empowered, for the prevention of nuisances of various kinds, to make by-laws which are to be enforced by the sanitary authorities, and if these duties be honestly performed, London will be free from many of the unwholesome conditions which are to be found in some of its localities.

The provisions of the Infectious Diseases Prevention Act of last year replace those which sanitary authorities previously administered, and the County Council is permitted to extend these powers as respects London to any infectious disease not specified in that Act. An important amendment is made in the sections relating to unsound food, by which it is made penal to offer for sale any article intended for the food of man which is unfit for human consumption; and further, the retail vendor is protected against the wholesale dealer if it can be shown that the food when purchased from the latter was in the same condition as when it was seized. The limitation imposed by the existing law has hitherto prevented proceedings being instituted against the sale of much unwholesome food.

The apathy of sanitary authorities in respect to mortuary provision will not be allowed longer to prevent any district in London being provided with proper accommodation for the temporary deposit of the dead, and sanitary authorities may also be required by the County Council to provide a suitable building in which post-mortem examinations can be made.

A motor power has at length been created by which

sanitary authorities which are lax in the performance of their duties can be stimulated. The County Council, if satisfied that any sanitary authority has neglected to discharge any ty under the Act, may institute any proceeding and do ny act which the authority might have instituted or done for that purpose, and is entitled to recovery from the sanitary authority all the expenses thus incurred; and, where this power is found to be insufficient, the Council may make representation to the Local Government Board, and the Board may make an order to be enforced by writ of *mandamus* limiting a time for the performance of the duty by the Sanitary Authority, or may appoint the County Council to perform it. It need not be doubted that the creation of this power by Parliament will go far to remedy many of the faults of London administration, and it may be anticipated that the County Council will not hesitate to perform its part should the necessity arise. The City of London is not subject to all these provisions, nor indeed has it ever been shown that the Commissioners of Sewers have dealt ungenerously with the question of sanitary administration, but there would have been advantages in dealing uniformly with all London districts in a measure relating to the public health.

In future medical officers of health and sanitary inspectors are not to be appointed for a limited period only, and will be removable only with the consent of the Local Government Board, if appointed or reappointed after the passing of the Act; thus there will therefore be greater security of tenure of office.

No one will study these measures without being impressed by the sincere effort which has been made to give all the powers that are needed for improving the health conditions of London. If there should be failure in the future, it will be the fault of Londoners in neglecting to return proper representatives to constitute the sanitary boards and the County Council. London owes a debt of gratitude to Mr. RITCHIE for the benefits he has conferred by his efforts to improve the sanitary law, and this debt will be further increased if at an early date he decides to give to the County Council the same powers as to open space about houses which are now enjoyed by every urban authority throughout England and Wales. This is, perhaps, the most pressing of metropolitan wants, for it is the absence of such provision that has in the past and will in the future impose heavy expense on the ratepayers by necessitating improvement schemes. The work Mr. RITCHIE has already performed has raised the hope of all interested in the public health that he will not deal less generously with this question than he has with the general sanitary law.

IN an annotation in our issue of Jan. 3rd reference was made to an epidemic of chorea which occurred some months previously among the children attending a school at Wildbad. Twenty-six children in all were affected (eighteen girls and eight boys), the majority slightly, but some cases were severe. Many of the patients continued their attendance at school, and there is little doubt that imitation, unconscious perhaps in the first instance, had considerable influence in evoking the manifestations of the disorder, a view which receives confirmation from the fact that those who were kept away from school rapidly improved, and were soon completely restored to health.

The outbreak of such an epidemic as this naturally carries the mind back to long bygone days when the dance of ST. VITUS was a disorder very different from that to which the term is now applied. In those days the term mania was not at all inapt as applied to the dance of ST. VITUS and the similar dance of ST. JOHN, and we may congratulate ourselves on the fact that nowadays our civilisation has advanced so far and our power of self-control has become so strong and so well developed that such outbreaks as occurred in those earlier times are, so to speak, impossible. Yet the occasional occurrence of such a mild epidemic as that just referred to in the school at Wildbad, and the not uncommon association in those latter days of extravagant gestures and loud cries with religious observances, show that deep down in our organisation there still lurk the remnants of that nerve instability in which the dancing epidemics of the Middle Ages had their origin.

Although there were doubtless outbreaks more or less severe of this dancing mania in earlier times, it was only in the year 1374 that the dance of ST. JOHN assumed that severe and epidemic character which has made it memorable. In this year bands of men and women from different parts of Germany appeared at Aix-la-Chapelle. They paraded the streets, and besieged the churches. They joined hands, and, regardless of observers, indulged in the wildest gestures and the maddest dancing until they fell down in a state of exhaustion. They rolled upon the ground foaming at the mouth and gnashing their teeth. They groaned as if in the agonies of death, and relief could only be obtained by tying a band tightly round the waist of the sufferer. The object of this was to relieve the tympanites, which was a prominent symptom, but other and more forcible methods, such as thumping and trampling upon the parts affected, were not uncommonly resorted to for the relief of this condition. While the dancing continued its votaries were in a state of ecstasy. They were oblivious of their surroundings, they saw signs and visions; to them the heavens were opened, and the Saviour enthroned with the Virgin became visible. From Aix-la-Chapelle the epidemic quickly spread over the Netherlands, and all the arts and rites of the Church were invoked against it. Orders were promulgated against the wearing of various things to which the fanatics showed aversion, such as red garments or pointed shoes, and, whether by reason of Church exorcisms and secular regulations or by natural exhaustion, the epidemic gradually subsided.

It was forty years later that a similar epidemic broke out at Strasburg, and to this the name of the dance of ST. VITUS was first applied. The name had reference to the fact that this saint was supposed to have special power in overcoming the disease, and his shrines in various places became the resort of the afflicted. The association of this saint with the affection was no doubt due to a legend, in all probability invented for the occasion. ST. VITUS was a Sicilian who had suffered martyrdom in the fourth century, and, according to the legend which now

became current, just as he bent his neck to the sword he prayed that he might protect from the dancing mania all who kept his commemoration day and fasted upon its eve. In answer to this a voice was heard to say, "VITUS, thy prayer is answered," and henceforth ST. VITUS became the refuge and protector of all who suffered from this dancing mania.

Italy had an epidemic of its own, almost contemporaneous with the dance of ST. VITUS, and it has had, perhaps, more lasting effects than either of the others. This was the epidemic of tarantism. It was supposed to be the result of the bite of a ground spider, the tarantula; but, as has been suggested, it is more likely that the fears of the consequences of the bite—fears arising easily in the gloomy and despondent temper of the time—had more to do with the causation of the malady than the bite itself. Those bitten became stupid, dull, and lethargic, or they became excited and went about laughing and dancing. All were keenly sensitive to music of a certain kind, became wildly excited when it was played, danced and sang, shouted and screamed until they were exhausted. Music was the only remedy, and it was supposed that the poison was expelled in the perspiration produced by the violent exercise. It soon became customary for bands of musicians to traverse the country at the proper season, and the "women's little carnival"—for women made all the arrangements—was eagerly looked forward to, and became quite an institution. It thus died out as an epidemic, and became almost a recognised popular festival. That, too, in process of time was dropped, but the merry notes of the "tarantella" still survive in more forms than one, fortunately now deprived of the unpleasant associations of earlier times.

Such were the great dancing epidemics of the past, and their origin is lost amid the myths and superstitions of those remote ages. When we remember, however, that they first assumed their important and striking characters at a time when the Black Death had devastated Europe and left it in a condition of extreme nervous exhaustion and consequent susceptibility to all disturbing influences, at a time, too, when the Church was doing its best to substitute sacramental rites and saints' days for the rude barbarian observances which had up till that time been the festivals of the people, we probably recognise the two great factors in their causation. Thus the ancient heathen custom of the "kindling of the nodfyr," forbidden by the Church, had been engrafted in some modified way on the festival of ST. JOHN'S Day. To him who had leaped through the flames and smoke of the "nodfyr" was granted immunity for a year from fever and pestilence, and it may be, as HECKER suggests, that the dance of ST. JOHN was really this leaping run mad.

The dance of ST. VITUS does not seem to have differed materially from that of ST. JOHN; in both there was much that was objectionable. But when we reflect how prominent a place in all ancient festivals dancings and processions occupied, how the wild bacchantic dances and the rude phallic rites were really a part of the ritual in the heathen worship of nature, we can understand how the dancing epidemics came to have associated with them much that was sensuous and coarse. It is interesting to trace the gradual decline of those epidemics, and how, as they declined, the name still adhered to the changed malady; so that we have now in the usually mild disease chorea the lineal descendant, at least in name, of the wild and turbulent ST. VITUS'S dance.

H.R.H. the Prince of WALES, in presiding over a meeting of the General Committee of the International Congress of Hygiene and Demography on Monday, the 16th inst., at 20, Hanover-square, justly remarked that a good start had been made. The meeting was certainly well attended. A very strong organising committee has been constituted, and the committees managing the various sections are now well in harness. They have held numerous meetings, carefully drawn up and printed programmes for debate, and have already accomplished a very considerable amount of work. This labour comprised, among other things, the writing of 480 letters to various town councils and local authorities asking for their support. Replies have already been received announcing the appointment of 168 delegates from these local bodies. Some local authorities have coupled the nomination of delegates with invitations to the Congress to visit anything of sanitary interest in their respective districts. This is an important matter, and should be carefully considered. We must show our numerous foreign guests things that are really remarkable and new in this country. For instance, in the all-important question of drainage, all the newer experiments as well as the old systems should be visited. An invitation to view the sewer farm at Croydon has already been received. There are numerous, extensive, and successful sewer farms on the Continent; but nowhere on the Continent will a town be found draining up a hill instead of down a hill, and this of course not by the force of gravitation but by the strength of pneumatic propulsion. Our continental guests will want to see not that which they already know, but rather those innovations which have not yet become notorious throughout the world.

The Congress has two divisions and ten sections. This subdivision of the work to be done is on the whole wisely contrived, with one exception. We cannot but think that a mistake has been committed in classing together industrial hygiene and demography. This is altogether without precedent. There is no more connexion between statistics and industrial hygiene than there is between statistics and any other form of hygiene. Architects, in building artisans' dwellings, will quote statistics to show that their model dwellings are more healthy than the old rookeries. Why not say, therefore, that architecture is a section of demography? Engineers, who prove that after draining a town the death-rate is reduced, might put in the same claim. At the previous Congresses industrial hygiene has been a section by itself, and we should have thought that in England, the greatest industrial country of the world, this subject, which interests and personally concerns the masses more than any other topic, would have held one of the first places. Now, however, the discussion of problems relating to industrial hygiene is to be handicapped by the necessity of treating them from a statistical point of view. We have five Factory Bills before Parliament at the present moment. Similar projects of law are before the Legislatures of almost every country in the

world, and yet the discussion of these most urgent and practical questions is to be obscured under the mantle of demography. We hope it is not yet too late to correct this error. Also we would remark, while it is still time to make some modifications, that we fail to discover in the programme any provision for sittings of the Congress as a whole. Sectional sittings are useful for the study of special subjects, but when it is a question of enlightening, influencing, and, in fact, guiding the Legislatures of the civilised world, a discussion, and, above all, a vote of the Congress as a whole, are needed. This is what the previous international congresses of hygiene have given us, and the effect on various Legislatures has been most marked and beneficent. Considering that this Congress, if properly managed, and if it has a due sense of its importance and influence, will undoubtedly bring about in various countries the enactment of laws bearing on sanitation, no trouble or expense should be spared to render it a thorough success. The cost of the Congress is roughly estimated at £6000, and towards the completion of this sum £2500 are still wanting. This, then, is the moment for the friends of hygiene to prove their devotion to the cause by substantial donations.

Annotations.

"Ne quid nimis."

THE ROYAL COLLEGE OF PHYSICIANS.

THE office of President of the Royal College of Physicians is an annual one, but the Fellows have long since recognised the importance of retaining for a much longer period the services of the physician whom they once select. The duties of the office are not only important, but are decidedly arduous, and there is general agreement as to the assiduity with which they have been pursued by its present holder. Sir Andrew Clark now completes his third term, and if it be in accordance with his own feelings, he fully merits a continuance of the confidence reposed in him. This, there is no doubt, he will receive next Monday, when we feel sure the vote of the Fellows will be endorsed by the profession at large.

BURIAL OF SO-CALLED STILLBORN CHILDREN.

THE question recently asked by Dr. Cameron in the House of Commons respecting the interment of stillborn children, and the reply of the President of the Local Government Board, calls for more serious attention than it is likely to receive. Dr. R. Rentoul has just issued a pamphlet in support of his active opposition to the Midwives' Registration Bill, in which he states that he has ascertained by personal inquiry that during the year 1889 there were interred in seventy-one burial board cemeteries, as stillborn, the bodies of 6321 infants; and that there are no fewer than 1100 such board cemeteries in England, in addition to the parish churchyards, in which the proportional number of this class of burials is supposed to be larger than in cemeteries under the control of burial boards. Dr. Cameron, knowing the very loose and unsatisfactory system under which stillbirths are certified for burial purposes under the Births and Deaths Registration Act, 1874, asked the President of the Local Government Board for a return of the total number of infants interred as stillborn during 1890 in England and Wales. The answer to this question obviously suggested by the facts of the case was that, as there is no system of registration of stillbirths in England and Wales, it would be impossible to furnish the return asked for. It is seriously to be regretted, however, that the importance of this subject, from many points of view of deep public interest, did not suggest the possibility of providing some remedy for an evil which amounts to a grave public scandal, rather than suggest the assertion of a simple *non possumus*, a position too readily assumed by Government departments as a foil to suggested reforms. It is needless now to enumerate the many evils that arise from the present loose system of certification of stillbirth; but we may point to one which is but too likely to be overlooked—its effect upon vital statistics, which constitute one of the most powerful and stimulating factors of health progress. Vital statisticians have in recent years been startled by the constantly rapid decline of birth-rates and of death-rates. It is obvious that so-called stillborn children are not recorded in the birth or death registers, and in the interests of trustworthy statistics, it is therefore of real importance to know what truth there is in the assertion of the amount of interment of so-called stillborn infants that is going on around us, practically unknown and unchecked. The results of Dr. Rentoul's private inquiries are striking enough to call for Government inquiry; and there seems to be only one real difficulty in the way of such an inquiry. This difficulty is the apathy of the Government in the matter. All burial grounds and all burial authorities are, it is supposed, under some kind of control exercised by the Home Office. Why then should not the inquiry, so urgently needed and called for, be undertaken by the Home Office? and why should not all burial authorities be required to furnish annual, or more frequent, returns, showing the number of burials of so-called stillborn infants, accompanied by the actual certificates which the Births and Deaths Registration Act, 1874, requires, as authority for the burial of any child as stillborn? Such a course would supply the means for a kind of registration of stillbirths, and would also prove a real check upon the gross abuses of the present system, which are very generally known to exist.

PETITIONS AGAINST THE MIDWIVES' BILL.

IT is difficult to judge accurately of the amount of feeling for and against such a measure as the Midwives' Bill. The number of petitions or of meetings does not show much unless we know the number who signed the petitions, or the number who attended the meetings, and the kind of representation made to them of the probable or possible effects of the Bill. In the last list of petitions against the Bill published by the House of Commons is one from medical practitioners in and about South London, signed by 111; also one petition from members of the Women's Franchise League of Great Britain "in public meeting assembled." We are not told the size of the public meeting, but the number of signatures is two. The number of medical practitioners in Portsmouth is over 100, but the petition from them is signed by 14. Up to the 9th inst. the total number of petitions was thirty-eight, and the total number of signatures 773. The Medical Register for 1891 contains 29,163 names. When we remember the prodigious efforts that have been made to urge these petitions, and that many of the petitioners, and probably most of them, only petition against the present Bill, it would not seem that there is any serious opinion in the great bulk of the profession adverse to a reasonable measure for abating the scandal of untrained midwives. It would not be right to assume that the 28,390 members of the profession over and above these 773 accept the present Bill; but we shall not be far wrong in assuming that they realise the responsibility of not

attempting to grapple with the question. This will have to be done, and credit will be due to those who can devise a Bill that shall save women from the risks of the most ignorant midwives, and yet draw wide the line between midwives and medical practitioners. Here is a call for a medical statesman. Where shall he be found?

HOSPITAL SATURDAY FUND.

WE heartily congratulate the working men of London on their annual meeting and on the greatly improved account they were able to give of their stewardship. The increase in the workshop collection of £7000—from £8001 in 1889 to £15,000 in 1890—is a veritable credit to the executive. It is still far below what it might be, and what it should be; but a few leaps and bounds like those of last year will bring it up to a worthy figure. We are glad also that a satisfactory arrangement has been reached by which the Morley House Convalescent Home will be more intimately associated with the Hospital Saturday Fund, and the accommodation for working men increased. Another good piece of work announced at the meeting was an arrangement with the Invalid Transport Corps of the St. John Ambulance Association for the removal of invalids to hospital, by application of collectors of the fund at its offices. Sir John Colomb and the Bishop of London both spoke with natural satisfaction at the growth of every indication of independence in the working classes. We share the feeling, but we must remember that these contributions to hospitals are in no proper sense provisions for the attendance on the working classes in ordinary sickness, but charitable contributions on their part to institutions which exist for the treatment of grave cases of accident or sickness.

THE BLOOD IN PNEUMONIA.

DR. KIKODZE has published in the *Bolnichnaya Gazeta* of Dr. Botkin some interesting observations on the blood during pneumonia. He found that during the course of this disease the white corpuscles increase in number to as much as double, or even treble, what they are in healthy persons. The increase is observed in the fully mature and over-mature corpuscles rather than in the young ones. It is worthy of note that in fatal and very severe cases no increase in the white corpuscles is found. As a rule, however, the increase begins even before the physical signs of pneumonia are detected. It persists from that time onward without any great variations to the crisis, immediately after which it suddenly falls. It appears to be due to the re-entry into the circulation of the corpuscles which have passed out into the alveolar spaces; hence probably the preponderance of over-mature corpuscles. After the crisis this preponderance ceases.

CHOLERA NOSTRAS.

IN a paper read before the Société Médicale des Hôpitaux on Feb. 6th, Drs. Gilbert and Girode describe the researches they have made in regard to some cases of cholera nostras. The chief interest lies in the bacteriological work. The stools in some of the cases yielded almost pure cultivations of Escherich's bacillus. Cultivations were also made from the fæces on different media, and numerous colonies were also obtained from the cerebro-spinal fluid, but not so many were yielded by the blood of the liver and spleen. The fluid squeezed from the lungs produced, in addition to the pathogenic bacteria, organisms morphologically similar to the pneumococcus. Although certain organic disturbances, such as high temperature, favoured the development of the bacillus, as shown by the fact that when such occurred pure cultivations could be easily obtained from the stools, the authors would not imply the reverse order of things—that the high temperature &c. was caused by rapid multiplication of the organism; they considered that cholera nostras is not always a symptom of a local lesion of the intestine, and that the germs were able to pass through the walls of the intestine, invading the body, and so bringing about a new morbid type—the infectious form of the disease. They were also of opinion that the bacillus of Escherich was not the only choleraic microbe in this climate. Finkler and Prior have also found a bacillus in the alvine evacuations of patients suffering from cholera nostras, very similar to the cholera bacillus of Koch. There are two suppositions which may be considered as regards the connexion of Escherich's bacillus with cholera nostras. In one the microbe may be concluded to be harmless before it enters the body, and may there develop its special pathogenic properties. The second idea supposes that the germs are widely distributed, and acquire their poisonous properties before entering the body, most probably doing so by means of drinking water. In the guinea-pig, if a pure culture of this bacillus be injected, it is followed by all the symptoms of a typical attack of cholera nostras.

MEDICAL CHARGES.

ON Friday, the 13th inst., according to the *Times* report, Judge Stonor, at the Marylebone County Court, tried a case in which a medical man claimed a sum of about £45 from a gentleman residing in Bayswater. The jury returned a verdict for £41 19*s* 3*d*. The lady, described as delicate and nervous, was not the regular patient of the medical man, whose name is not given. She was led to consult him from fear concerning a draught given her by a chemist, tasted but not taken, which was said to contain aconite by mistake. The regular medical adviser called on the plaintiff, and offered him what appeared the usual fees for his services, but he declined. Thereafter the patient and her husband sought the plaintiff's advice, chiefly, it is said, influenced by the promise of a complete cure. On various days she went to the plaintiff's house and remained a considerable time, being submitted to examinations and treatment and provided with medicines and tins of Brand's essence of beef, milk, and eggs. The charges for these were higher than usual, but he said he did not generally supply them. The chief questions were as to the character of the consultations, and whether the plaintiff gave personal supervision during the whole of the time, which he averaged at three or four hours daily, and for which he charged three guineas a day. The jury seem to have been satisfied on this point, and, though a jury of medical men might have something more to say on the case, we are not disposed to quarrel with an ordinary jury for supporting higher fees than medical men generally charge.

A NEW METHOD OF INDUCING PREMATURE LABOUR.

DR. SCHRADER of Hamburg publishes in the *Centralblatt für Gynäcologie* a method of inducing premature labour based on his observation that cold is a greater excitant of the nervous, and consequently also of the muscular, system than warmth. Continuous irrigation at the temperature of 45° F. is impracticable on account of the pain it causes, but a cold douche alternating with a warm one can be borne. Dr. Schrader connects a vaginal glass tube by means of a T-shaped piece and the necessary india-rubber tubes to two irrigators, one of which contains the cold and the other the warm water. By allowing now one instrument and now the other to work, cold or warm water may be sent through the vaginal tube into the vagina. Two people are required—the one to fill the irrigators, the other to work the douche. For each sitting about twenty-

four litres of cold and half the quantity of warm water at 112° are required, and the douche has a fall of about one metre and a half. The irrigation begins with the warm current, and before the cold water is turned on pressure is made on the perineum with the vaginal tube, so as to allow all the warm water to run away from the vagina. The same plan is observed before the change from cold to warm, by which means the alteration in the temperature as felt by the patient is always sudden. Each time about two litres of cold and half the quantity of warm water are used. The douche is generally repeated about every hour and a half until labour is active enough to make its continuance probable. Of eighteen women treated by this method exclusively, and four others who were partly so treated, one died of eclampsia twelve hours after delivery, but all the others made a good recovery. The eighteen women who were treated by the douche exclusively had twenty children, of whom fifteen, that is 75 per cent., were alive. These cases required on the average ten douches and a half; in half the number three douches and a half were sufficient.

CERTIFYING FACTORY SURGEONS.

THE Royal College of Physicians of Ireland have petitioned Parliament on the subject of the Bills relating to Factories and Workshops at present before Parliament, pointing out objections to the clause providing for the abolition of certificates of fitness for the employment of children and young persons in factories. The petitioners think that public health will be seriously menaced by removal of the safeguard of medical examination of those persons seeking employment in factories and workshops. The National Society for the Prevention of Cruelty to Children have also petitioned the House of Commons against the proposal now before it to abolish the requirement of certificates of bodily fitness for employment of children and young persons in factories and workshops. There seem some signs that the Government perceive the force of the wide opposition to the 19th Clause of this Bill.

ST. BOTOLPH'S CHURCH, ALDGATE.

AN application was made on the 2nd inst. before Dr. Tristram, Q.C., Chancellor of the Diocese of London, for an order varying the terms of a faculty granted by the Consistory Court of London authorising certain alterations in St. Botolph's Churchyard, Aldgate. A decision to enlarge an adjoining street by acquiring a portion of the churchyard necessitated the removal of the remains interred therein, and the Court, by the faculty granted, had ordered that any remains which it should be found necessary to remove should be placed in a vault to be erected in the churchyard at the cost of the Commissioners of Sewers. Since the faculty was granted it had been found that a vault sufficiently large could not be erected without endangering the foundations of the church, and application was now made to authorise the remains being placed in the crypt. In granting the order the Chancellor remarked that in preparing for the enlargement of the street it was found that there was a very large number of remains in the ground that was to be appropriated for the street, filling sixty or seventy boxes and forty-two coffins. The space left would not be large enough to enable a vault sufficiently large to be erected. Since the matter had been before him he had inspected the church, churchyard, and crypt. He now varied the faculty so as to order that the remains be placed in two parts of the crypt underneath the church, that they should be walled off from other portions of the crypt, and so cemented as to prevent any effluvia whatever from coming into the church. That (he observed) could be done without any difficulty. Further, he ordered that the flooring of the crypt should be also covered with concrete by the Commissioners of Sewers. After what has so recently occurred in St. Mary's Woolnoth and in another City church we must confess our surprise that Dr. Tristram should have made such an order. It would have been unwise fifty years ago; in these days of burial reform and cremation it is without defence. Many, if not all, of the forty-two coffins are probably leaden ones, the removal of which will give rise to noxious emanations, and Dr. Tristram is mistaken in assuming that any cementing, however good, will prevent any effluvia from entering the church. Had he made an order at first that the remains must be removed to some suburban cemetery and re-interred there, he would have shown himself in touch with the times, and in harmony with modern sanitary views as to the proper disposal of the dead. Whether the congregation of St. Botolph will continue to worship in the church after the completion of the two proposed charnel-houses beneath is a question which, we trust, will be anticipated by the intervention of the Home Secretary. The removal of human remains from a city churchyard to the crypts under the church is a retrograde movement, which will not admit of any arguments in its defence.

THE PREPARATION OF CANTHARIDINATES.

PROFESSOR OSCAR LIEBREICH gives the following directions for the preparation of cantharidinate of potash or soda. The cantharidinate of soda as well as the other salts of cantharidinic acid described by Dragendorff and Masing are not purely chemical bodies, owing probably to the variable quantity of cantharidin mingled with them, so that they have not hitherto been capable of being used for exact dosage. To obtain a constant solution weighed quantities of cantharidin were dissolved by prolonged heating with alkali, and then carefully diluted to the required degree of concentration. It results from this that the quantity of alkali theoretically needed for the conversion into cantharidinate was not exceeded, so as to keep the cantharidinate in solution. A large number of experiments showed that to obtain a solution which would remain clear on dilution and cooling, it was necessary to use twice as much potassic hydrate and half as much again of sodic hydrate as of the amount of cantharidin employed. The alkali must be pure, dry, and free from carbonic acid. Solutions were therefore prepared as follows:—Cantharidin, 0·2 grm.; potassic hydrate, 0·4 grm. most carefully weighed, and heated over a water bath in a 1000 ccm. flask, with about 20 ccm. of water, until a clear solution resulted; then water was very gradually added, whilst still heating, to about the full quantity, which was quite completed after cooling. Or: Cantharidin, 0·2 grm.; sodic hydrate, 0·3 grm., were dissolved in the same way up to a litre.[1]

THE WORK OF THE DALRYMPLE HOME

BY the kindness of Dr. Norman Kerr we have been favoured with an advance proof of the annual report of the work of the Dalrymple Home for Inebriates. The admissions during the year were: Under the Inebriates Act, 18; as private patients, 23; with 18 under treatment on Jan. 31st, 1890, the cases for the year were 59, of which 1 was discharged by order of a magistrate, 40 by the efflux of time, and 18 remained under treatment on Jan. 31st, 1891. The number of cases discharged since the opening is 224, and some of the particulars are interesting. More (124) have entered as private than as under the Act. The average length of period of treatment of all patients discharged is about six months and a half. Whisky was the inebriant used in 84 cases. The prevailing temperament was nervous. The

[1] Therapeutische Monatshefte, March, 1891.

drinking habit in 148 was regular, in 76 cases periodical. As to after history, 94 are reported as doing well, 10 as improved, 74 as not improved, 10 as insane, 1 as dead, and 35 as not heard from.

THE LATE SURGEON-GENERAL BALFOUR.

WE understand that it is proposed to erect a memorial brass to the late Surgeon-General Balfour, F.R.S., in the chapel of the Royal Victoria Hospital, Netley. It is considered that a donation of half-a-guinea from twenty or thirty subscribers will suffice for the purpose, and we have no doubt that Sir Thomas Longmore, who has kindly interested himself in the matter, would gladly receive subscriptions. Dr. Balfour's real memorial is the admirable statistical work he performed; but it may not be so generally known that the late Surgeon-General was one of the ablest and most popular principal medical officers that ever presided at Netley, and it is fitting, therefore, that the memorial of him should find a place there.

THE UVEAL GLAND.

AN important addition to our knowledge of the structure of the ciliary region of the eye has lately been made by Dr. W. Nicati of Marseilles, whose researches demonstrate the existence of a glandular apparatus by which the aqueous humour is secreted. Dr. Nicati names it the "uveal gland," or gland of the ciliary processes, which sufficiently indicates its position. The escape of the aqueous humour was formerly considered to entail the loss of the eye, and, indeed, when it escapes as the result of serious wounds loss of the eye is not of infrequent occurrence; but in later times it was perceived that escape of the aqueous was not in itself serious, and that the fluid was soon reproduced, the eye recovering its normal fulness and aspect. Chirac, a distinguished French physician, at the close of the seventeenth century attributed the secretion of the aqueous to glands which he described as situated at the margin of the iris. Nuck wrote a special treatise on the subject in 1685, in which, whilst denying the existence of the glands, he gave a detailed account of the ducts which Chrovet subsequently found to be filled with blood, and which Haller demonstrated to be the ciliary arteries and their branches. In still more recent times the aqueous humour has been regarded as an exudation from the vessels of the iris and the walls of the anterior chamber, and in the present day is held, as by Leber, to proceed from the posterior surface of the iris and from the ciliary processes. The parts specially described by Nicati as closely associated with or forming part of his uveal gland are, first, an epithelium, continuous at the ora serrata with the retina, and prolonged over the whole surface of the ciliary processes to the attachment of the iris. This represents the gland, and he estimates its surface to amount to at least 6 centimetres square. The cells constitute a single layer, with large oval or spheroidal nuclei, and rest on a layer of pigment cells continuous with that external to the rods and cones of the retina. Internal to the epithelium is the suspensory ligament, a special structure which extends from the tips of the ciliary processes to the lens, and is composed of delicate connective tissue, and of the rigid friable fibres of Henle, amongst which some free blood-corpuscles are found. These he believes to be the remains of the vascular organ which occupied this position before birth, the tunica vasculosa lentis, of which the pupillary membrane of the fœtus is a part, receiving its vascular supply from the hyaloid artery. External to the secreting epithelium is a close network of capillaries, which is a continuation of the chorio-capillaris and ministers to the nutrition of the gland. The larger arteries supplying the plexus are the short ciliaries, and the veins returning the blood are the venæ vorticosæ. The nerves proceed from the plexus formed by the ciliary nerves given off by the nasal nerve and by the lacrymal ganglion. The ducts of the gland are represented by the canal of Petit, the circular marginal slit of the posterior chamber which separates the iris in front from the crystalline lens and the ciliary processes behind, and the slits connecting these spaces with each other; whilst the channels by which the aqueous humour is absorbed and carried away are lacunæ in the epithelial layer covering the crypts on the anterior surface of the iris, sometimes named the lymphatic lacunæ of Fuchs or the stomata of Nuck and Cornil, which open into a system of lymphatic channels that are again continuous with the lymphatic sheaths of the anterior and posterior ciliary veins and of the venæ vorticosæ.

THE FRENCH SURGICAL CONGRESS.

THE fifth session of this congress will hold meetings from March 30th to April 4th in Paris, in the great amphitheatre of the Medical Faculty, under the presidency of Professor Guyon. The inaugural meeting will take place on Monday, March 30th, at two o'clock. Communications will be read on the question of "surgical intervention" in affections of nerve centres, trepanning of the skull excepted. Drs. Reclus, Bazy, Doyen of Rheims, Vaslin, Jeanlen, Professor Ollier, Dr. Picqué, Professor Victor Horsley of London, and others. The subject of the results of removal of the uterine appendages in affections which are not neoplastic in their nature will be discussed by several gynæcologists of eminence. The discussion will be opened by Mr. Lawson Tait on April 2nd, and Sir Spencer Wells will take part in the proceedings. The question of the different kinds of suppuration examined from a clinical and bacteriological point of view will form a subject of discussion.

LEGAL CRUELTY.

THE abduction of Mrs. Jackson, which has been the talk of Lancashire for some days past, has given occasion for one of those exhibitions of the tenacity with which legal doctrines survive their date which fairly take away the breath of a layman. On Monday last an application was made by Mr. E. Forbes Lankester to the Divisional Court of Queen's Bench for a writ of *habeas corpus*, directing her husband, who was at that time holding her a close prisoner, to bring her into Court and assign the cause of her detention. The main facts of the case have become well known through the daily press. Mr. and Mrs. Jackson were married in 1887, but on the day of the marriage the husband brought the wife back to the house in which she had been previously living, and himself departed in the evening, and shortly after left the country for New Zealand. The parties corresponded and quarrelled by letter, and upon the husband's return to England his wife declined to live with him, and refused to obey an order for restitution of conjugal rights which the husband obtained from the High Court of Justice. The husband in these circumstances found an opportunity of forcibly seizing his wife on Sunday, the 8th inst., as she was leaving church, and carrying her off to Blackburn, where he kept her in close confinement. The evidence by which the application was supported showed that the lady was effectively prevented from communicating with her friends, and unable, therefore, to bring her own case before the Court, and it comprised an affidavit by Mr. Musson, her medical attendant, who deposed that he had attended her for thirty years, that she had suffered on three occasions from rheumatic fever, which on the first occasion was complicated with severe inflammation of the heart; and that, although there has since then been no objective evidence of heart disease, it is highly probable that

there exists a delicacy which in unfavourable circumstances might produce serious results. He further stated that he considered a large amount of out-door exercise of essential importance to her health, and that, in his opinion, continued confinement to the house, and particularly when accompanied by mental disturbance, would be very detrimental. Upon these materials the Divisional Court came to the conclusion that no case for inquiry had been made out. Mr. Justice Cave justified the husband's proceedings upon the ground that he had been led to adopt them, first, by his wife's obduracy in refusing to live with him; and, after the abduction, by the conduct of her relatives, who, as he expressed it, had "picketed" the house. He considered the facts to determine whether in carrying out his blameless purpose the husband had used any unnecessary violence or cruelty, and came to the conclusion that the evidence did not go to this. It is some satisfaction to reflect that the Lord Chancellor and the Court of Appeal did not sanction the very antique doctrine which found favour with the Judges of the Queen's Bench Division, but it is at least startling to learn that at the present time any tribunal can be found which will entertain a doubt as to whether a husband is entitled to drag a delicate woman, if she be his wife, by main force to his house, and to detain her there a close prisoner under unremitting surveillance.

THE HOUSE OF LORDS AND THE MEDICAL PROFESSION.

COLONEL FITZGERALD in the *Morning Post* comments on the conspicuous absence from the Upper House of representatives of the medical profession. The defect is an absurd one, and the Minister who has the courage to remove it will deserve well of the public, and of the House of Lords.

BIOLOGICAL ACTION OF IRON AND MANGANESE.

DR. FAUSTO FAGGIOLI has published in a recent issue of *La Riforma Medica* some notes of a research upon the physiological behaviour of iron which he has carried out, with Professor Pellacani's assistance, in the Bologna laboratory of Forensic Medicine. From these it would appear that iron enjoys the property of setting up mitosis or nuclear change and cellular increase, especially in cultures of unicellular organisms such as protococci. Under some circumstances manganese will act in the same way, but Dr. Faggioli was unable to find that any other metal could do so.

PATHOLOGY OF GRIEF.

THAT severe mental distress or fright sometimes produces physical disease, and occasionally even death, is an admitted fact, although the way in which it acts has hitherto been but little studied. In order in some measure to supply the deficiency in our knowledge regarding this matter, Dr. G. Bassi has recently made a number of observations on animals which apparently died in consequence of capture. Birds, moles, and a dog which had succumbed to conditions believed by Dr. Bassi to resemble those known amongst human beings as acute nostalgia and "a broken heart" were examined post mortem. Generally there was hyperæmia, sometimes associated with capillary hæmorrhages of the abdominal organs, more especially of the liver, also fatty and granular degeneration of their elements, and sometimes bile was found in the stomach with or without a catarrhal condition. The clinical symptoms were at first those of excitement, especially in the birds, these being followed by depression and persistent anorexia. The theory suggested by Dr. Bassi is that the nervous disturbance interferes with the due nutrition of the tissues in such a way as to give rise to the formation of toxic substances—probably ptomaines,—which then set up acute degeneration of the parenchymatous elements similar to that which occurs in consequence of the action of certain poisonous substances such as phosphorus, or to that met with in some infectious diseases. In support of this view, he points out that Schule has found parenchymatous degeneration in persons dead from acute delirium, and that Zenker found hæmorrhages in the pancreas in persons who had died suddenly; he refers also to some well-known facts concerning negroes in a state of slavery and to the occasional occurrence of jaundice after fright. He hopes that these hints may induce medical officers of prisons and others to study both clinically and anatomically this by no means uninteresting or unimportant subject.

THE POLLUTION OF THE AIRE.

DIFFICULTY is already raised as to the formation of a Conservancy Board for the river Aire, and at a public meeting inaugurated by the Keighley Corporation opinions were expressed that the two boroughs of Leeds and Bradford, which were moving in the matter, were the worst offenders; entire disapproval was also expressed at the action taken. But it seems more than likely that the real grievance lies in the question of representation, and that a number of urban and other areas in the West Riding find that their influence will be overridden by an overwhelming majority. A request is to be made to the President of the Local Government Board to receive a deputation on the subject, and if this is assented to, the matter will probably be soon settled one way or the other. Anyhow, we hope that the pollution of the Aire, and of the Calder also, will before long be a thing of the past, for the present state of affairs is a disgrace to the localities through which the rivers flow.

GLANDERS IN HAVANA.

GLANDERS is unfortunately of frequent occurrence in Cuba, more especially in Havana. The reason of this is said by Dr. Davalos, in a paper read before the Cuban Medical Congress, to be that the bacillus mallei in cultures of nutrient material increases in virulency in the ordinary spring temperature—that is to say, at 28° to 30° C., contrary to what occurs in the case of cultures of bacillus anthracis, and, indeed, of most other microbes. When, therefore, clothes and other things have become contaminated from contact with a patient suffering from glanders, whether human or equine, the liability of the disease to spread under the conditions which exist in Havana—a thickly populated and not over-clean town—is very great; indeed, Dr. Davalos ventures an opinion that, with the amount of infection already existing in Havana stables, it would take twenty years of scrupulous antisepsis to destroy it.

DEATH UNDER CHLOROFORM AT KING'S COLLEGE HOSPITAL.

WE have been favoured by Mr. A. Whitfield, L.R.C.P., M.R.C.S., with the following particulars:—D. W., aged twenty-eight, admitted Dec. 14th, 1890, with Pott's fracture of right fibula, was put up in plaster-of-Paris bandages, and sent out some days later. He was afterwards treated as an out-patient at King's College Hospital. The patient came on Friday, March 13th, 1891, when the plaster splint had been removed some time, complaining of stiff ankle, painful on walking, and was told to come the following morning, having had no previous meal, in order that his ankle might be forcibly moved under an anæsthetic. He came to the hospital as directed. He seemed in good health and the circulatory organs gave no sign of

disease. Chloroform was used as the anæsthetic, and was given from a drop bottle on a folded towel. The patient took the anæsthetic well, and struggled little during the production of anæsthesia. When sufficiently under, the ankle was forcibly moved, and the adhesions broken down, by Mr. Hewlett, house surgeon. The patient was then in a state of fairly complete anæsthesia, his pupils were moderately contracted, and there was still slight corneal reflex; breathing normal and quiet, pulse fairly quick; no muscular resistance was felt in breaking down adhesions. After the operation no more chloroform was given, and the patient seemed quite well for about three minutes. He then stopped breathing suddenly. Artificial respiration was commenced and he started breathing again, which he continued for about ten good breaths; he then stopped again. The pulse was then very quick and small. Artificial respiration was kept up, and fifteen minims of ether injected subcutaneously. The patient was inverted and galvanism and flicking the chest with wet towels were tried. Nothing, however, was of any avail, and after about three-quarters of an hour, during which time artificial respiration was continuously applied, the circulation also failed. Not more than three drachms of chloroform were administered, and the patient was not under its influence more than a minute. There was no cyanosis or other alarming symptoms till the cessation of breathing occurred. At the necropsy all the organs were found healthy. The heart was empty, with no sign of organic disease or fatty degeneration.

DIPHTHERIA AT ESHER.

THE neighbourhood of Esher has from time to time been troubled with diphtheria. Some have thought that the modern system of drainage should have put an end to that disease; others have thought that the connecting of houses with the drains had brought it about. We are told that the last occurrence has taken place where no connexions with the sewers have as yet been made, but where nuisances of an ordinary type and others due to the keeping of fowls and rabbits prevail. The truth is that this endless seeking for some nuisance to explain diphtheria is very misleading. In nine cases out of ten the mischief lies in infection from antecedent cases of a trivial sort which escape detection, and the centre often lies in the school. If, when a case of diphtheria occurs, examination were made of all the throats of children and pupil teachers at school, with a view to the exclusion of any who present symptoms, however slight, of throat disease, much more would be done to stay the sickness than is at present the case. The only advantage of the other course is that remediable evils are dealt with by the sanitary officers, and to that extent preventable disease is diminished. But the hunt for some fault in sanitation and its acceptance as cause, whether it be presence or absence of drainage, privy nuisance, or effluvia from chickens and rabbits, is not altogether scientific.

THE PREVENTION OF BABY-FARMING.

THE recent baby-farming revelations exhibit in ghastly reality the whole ordinary plan and circumstance of this detestable form of crime. Its usual causes, inducements, evasions, methods, and effects have been clearly exposed, and it is hardly needful for us to discuss in full detail the now familiar history. Some study of the method adopted by the would-be farmer will not, however, be without advantage, since it is only by way of prevention that the evil can be cured. On examination the first point that strikes us is that this business rests, like every other, upon a foundation of demand. Legally fatherless, practically motherless, many thousands of children annually born in this country are from birth intended for other than parental keeping. In many cases they are parted with in order that they may be forgotten. The "nurse" understands this, and she will, for a suitable remuneration, supplemented, it may be, by the prospect of a sum payable through an insurance agent, guarantee their disappearance. Advertisement is the medium of communication, and frequent changes of name and residence enable the *quasi*-parent, for a time at least, to baffle suspicion, and thus the inconvenient infant is transferred and absorbed into obscurity. Then follows the well-known process of neglect, starvation, and death. The case of Reeves, which has lately resulted in a verdict of manslaughter, conforms in all essential particulars to the description above given. In the light of such overwhelming proof of wanton mismanagement as was here brought forward, the finding of the jury was a foregone conclusion. Disease had indeed helped forward the slow process of dissolution, but the medical evidence tendered left no doubt as to the fact that starvation and squalor were acting powerfully as preparatory and concurrent causes. Their swift and deadly influence may be judged from the fact announced by the judge in summing up—namely, that in the short space of six months eight children out of twelve in this woman's care had died. We may naturally ask whether nothing can be done to arrest at its beginning this indiscriminate transfer of infants, about which nothing appears to be so certain as its fatal issue. Why not, for example, arrange that every advertisement relating to the custody of nurse children and every case of infant insurance be liable to official registration, this latter to be supported by vigilant after inspection? The work of supervision might be entrusted to the sanitary officials or to persons deputed by them, such, for instance, as the officers of the Cruelty Prevention Society, whose efforts have been deservedly commended.

THE QUESTION OF NOTIFICATION AT BARNSTAPLE.

THE Barnstaple Town Council are somewhat afraid of compulsory notification; indeed some of their number argue that the Act conferring this power is a useless piece of legislation. Since the Councillors resorting to such an argument have never put the Act to the test, their opinion naturally does not go for much; and we may hence pass on to another objection that has been raised—namely, that such a power is useless in the absence of an isolation hospital. To a considerable extent we sympathise with this class of objectors, but if their objection be a genuine one we may console them by informing them that the adoption of the Infectious Diseases (Notification) Act is doing more towards securing the provision of means of isolation than anything else; for when sanitary authorities learn how many are the instances in which they could have stayed the spread of infection had they only had means at hand for the prompt isolation of first attacks of sickness, they feel it their bounden duty towards their constituents to make the needed provision. And pending such provision, a good deal may, according to the experience of other places, be done, for there are a number of instances in which control can be exercised, and this successfully, where hospital isolation is not called for. We refer, for example, to the value of excluding from school all children coming from houses where cases of such diseases as diphtheria, measles, and whooping-cough have existed.

THE CORONER AS INTERPRETER.

WITHOUT prejudice to the capacity for office displayed by lawyers in other spheres of usefulness, we have always maintained that the functions of the coroner can best be exercised by a medical man. The subject matter comes naturally within his proper sphere of thought. Provided,

in addition, as he must be, with an appropriate knowledge of law, his position is really that of an expert, and his judicial opinion of necessity reliable in a corresponding degree. Moreover, his very familiarity with medical technicalities is in his favour. A somewhat amusing illustration of this latter point occurred a few days ago at an inquest in Chelsea, where the descriptive terms employed by a medical witness were as Greek to a jury of workmen until they were properly translated into good coroner's English. We do not for a moment pretend that it is expedient or necessary for medical men in giving evidence to confine themselves to a technical nomenclature. In this matter, if in anything, simplicity is the essence of good expression. It is obvious, however, that whatever care is taken to observe this desirable clearness of speech, the need of explanation must arise from time to time, and with it the medical coroner's opportunity.

MODE OF ENTRY OF THE TUBERCULAR POISON INTO THE BODY.

A VERY good summary of the various paths of infection adopted by the tubercle bacillus is given by C. Bollinger in the *Münchener Med. Wochenschrift*, 1890, No. 43. He considers that the frequency of infection through the skin has been under-estimated. Several cases have been recorded of direct inoculation by wounds received from broken spittoons &c., by bites, after circumcision, by morphia syringes, and earrings. Eczema and impetigo increase the susceptibility of the skin. No case has as yet been attributed to vaccination, and it would appear that the tubercle bacilli are unable to live in the vaccine lymph. They also appear unable to pierce the pores of the skin as do some of the pyogenic organisms. The susceptibility of the mucous membranes is increased by inflammatory processes, such as otitis, rhinitis, conjunctivitis, pharyngitis, &c.; from thence the poison travels to the submaxillary glands and those of the neck, and generally causes local tuberculosis of the glands. The chief point of infection is of course the lungs. Local predisposition is best exhibited by apices which have been before diseased, but have undergone a healing process. The movement is deficient both in expiration and inspiration, and the liability to reinfection is increased by anæmia, irritants (such as coal and metallic dust), constitutional influences, such as diabetes, disturbances of digestion, and unhealthy surroundings. The poison may pass through the lungs and attack the bronchial glands, under which circumstances the disease may be very insidious. The predisposition of the lungs again exhibits itself in metastasis; not every tubercular disease of these organs is due to inhalation of the bacilli or their spores. As regards primary tuberculosis of the testicles, joints, and bones, Bollinger considers that a latent hæmatogenic infection must be understood, which leaves as little trace of its point of entry as does a primary septic endocarditis or an osteomyelitis. Tubercular disease of the larynx depends upon an autoinfection through the sputum. The rarity of this disease in children is explained by the infrequency of pulmonary cavities in the rapid forms of phthisis. Primary tuberculosis of the intestine generally, combined with an affection of the mesenteric and retroperitoneal glands, is usually occasioned by means of vitiated food and contaminated feeding utensils. Secondary tuberculosis of the intestine depends upon an autoinfection. The tubercular poison passes through to the intestine unaltered by the juices of the stomach and attacks the Peyer's patches and solitary follicles. Tuberculosis of the peritoneum, which is three or four times as common in men as in women, can arise directly from ulcers of the intestine, from tubercular abdominal glands, or, especially in women, from the urogenital tract; further, through contagion from the lungs and pleura, and finally in the course of miliary tuberculosis, or from caseous bronchial glands. Primary tuberculosis of the peritoneum is rare (3 to 4 per cent. of all cases). As regards the infection from milk, this is, in Bollinger's opinion, undoubtedly due to the udder of the cow being affected with the disease. Infection through the milk of tuberculous women has not yet been proved. In tabular form the organs of the body are thus affected, beginning with those most frequently diseased:—(1) lungs, (2) the lymphatic glands, (3) intestine, (4) serous membranes, (5) larynx, (6) spleen, (7) joints, (8) bones, (9) liver, (10) kidneys, (11) the genital tract, (12) the skin, (13) brain and spinal cord, (14) muscles.

UNQUALIFIED ASSISTANTS AND INQUESTS.

THE coroner for West Bromwich, in a case of a child dying twelve hours after birth, where a death certificate was alleged to have been given by the unqualified assistant of a medical man, expressed his surprise that medical men did not generally employ qualified assistants, and announced his intention of holding an inquest on every case where a certificate of death was given by an unqualified assistant.

TROPHIC DISTURBANCES IN HYSTERIA.

UNDER this title a lecture by Pitres appears in the *Progrès Médical*, and the cases dealt with are five in number. The first is that of a young woman who, after a disappointment, suffered from some hysterical manifestations, and when she came under observation was suffering from œdema, confined to the left leg. The swelling was hard and resistant, and did not pit on pressure. There were contraction of the visual fields and hemianæsthesia. The knee-jerk on the affected side was diminished. A cure resulted after magnetisation. The next case referred to is one of paralysis of both legs, with complete flaccidity, which had come on suddenly after a miscarriage. There was anæsthesia of the legs, with loss of sense of position, and sinapisms on being applied provoked neither pain nor redness. There was notable lowering of the temperature of the affected limbs. The visual fields were contracted, and a complete cure was effected by brisk faradisation. The third case is one of wasting of the left hand and arm, which had commenced apparently some months after a wound inflicted in the pectoral region, so long ago as 1882. There was a characteristic *main en griffe*, wasting of thenar and hypothenar eminences, but the electrical reactions are said to have been absolutely normal. There was anæsthesia over the left arm and over parts of both sides of the chest and back. There were also anæsthetic areas on the head, and marked but almost equal contraction of the visual fields. This case was diagnosed as one of hysterical atrophy consequent on traumatism, but the subsequent progress is not reported. The fourth case was one of facial paralysis of the right side with diminished electrical excitability, which recovered completely in a month; while the last one is that of a girl who had several attacks of paralysis, supposed to be hysterical, and who was said to have developed a bedsore in those attacks, and on one occasion to have had suddenly and painlessly several teeth drop out without apparent cause. It is evident that all these cases present anomalies, and to the English mind at least the acceptance of the diagnosis of hysteria in several is difficult. We are prepared to grant that all the patients were what we understand by hysterical, but we are not prepared to say that there was no underlying organic affection. A patient in whom there is œdema of the leg below the knee, with diminished knee-jerk, even if the visual fields are contracted, and there

is hemianæsthesia, is not necessarily the victim of hysteria alone. We should say that the probabilities were all the other way. Nor can we at all understand why facial paralysis with diminished electrical irritability of the muscles, and with all the classical appearances, should be called hysterical. The only apparent reason is that it occurred in a girl. The last case of all is related as one of trophic disturbance occurring in hysteria; but as the patient was not seen when she was paralysed, and as moreover the existence of the bedsore—the trophic disturbance referred to—was taken entirely on hearsay and had left no cicatrix, we cannot see any sufficient reason for including it in the group of hysteria, far less for citing it as an example of trophic disturbance in that affection.

SIR HENRY THOMPSON.

WE are enabled to qualify a statement which has appeared in the newspapers with respect to the health of Sir Henry Thompson. Sir Henry has not visited Monte Carlo, and has no intention of going there. On Sunday last he was the subject of a slight surgical operation, from which he is, we are glad to say, fast recovering, and which will probably keep him in bed not more than ten days.

FOREIGN UNIVERSITY INTELLIGENCE.

Buda-Pesth.—Professor Klug of Clausenburg has been selected as successor to the late Dr. Jendrassik in the chair of Physiology.

Freiburg.—Dr. Katelden has been promoted to the rank of Extraordinary Professor.

Giessen.—Professor Stöhr of Zurich has declined an invitation to this University.

Moscow.—Dr. Filatoff has been appointed Professor of Children's Diseases.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Eugen Jendrassik, Professor of Physiology in the University of Buda-Pesth, after a short illness (erysipelas), in his sixty-eighth year.—Dr. Hermann Kugler, of Stettin.—Dr. Blodig, formerly Professor of Ophthalmology in the University of Gratz.—Professor Regeczy-Nagy, of Buda-Pesth.

THE Irish Medical Schools' and Graduates' Association celebrated St. Patrick's Day with due honours. The Association numbers about 700 members. The dinner, presided over by Dr. Gilbart Smith, was numerously attended and much enjoyed.

SURGEON T. H. PARKE, of the Army Medical Staff, has, we learn, been appointed a Vice-Consul in the Oil Rivers Protectorate. Surgeon Parke has lately been doing duty with the 2nd Life Guards in London.

THE University of Aberdeen has paid Dr. Bruce the compliment of conferring on him the degree of LL.D. in consideration of his being the Direct Representative for Scotland in the General Medical Council.

THE corporation of South Shields have adopted the Notification Act, but only by a majority of one. The adoption of the Act was moved by a member of the medical profession, Mr. T. M. Young, M.R.C.S., L.S.A.

INTELLIGENCE has been received of a death in consequence of the injection of cantharidin in the Moabit Hospital in Berlin. The fatal result is said to have been caused by the action of the drug on the kidneys.

THE LANCET
Analytical Sanitary Commission.

REPORT ON
PERFECT COMBUSTION AND SMOKE PREVENTION.

THE increasing prevalence of fogs, the unlimited growth of this immense metropolis, the rise in the price of coals, and the exceptional severity of the winter have naturally revived the old and vexed problem of smoke abatement. It is very widely felt that there must be a limit to the reckless waste of fuel, with its consequent poisoning of the atmosphere by smoke &c. With the prevalence of fogs the death-rate rises, and of course those who are suffering from diseases of the respiratory organs find their complaints greatly, sometimes fatally, aggravated when they have to breathe the soot and the sulphurous gases which, when mixed with aqueous vapour, constitute the special characteristics of a London fog. This is, of course, entirely due to the hundreds of thousands of chimneys that daily throw off black smoke, and the number of these chimneys is increasing to an appalling extent. Now, what is generally termed smoke—that is to say, dark visible smoke—is simply unconsumed or wasted coal. The coal has been partly decomposed by the heat of the fire, but under the influence of the cold air it condenses anew and re-forms itself into carbon in the shape of soot. To prevent black smoke we must, therefore, thoroughly burn or consume the fuel used. We should then secure the double advantage of obviating smoke and of preventing a great and disastrous waste of fuel. For years, however, we have sought in vain such a consummation. Improvements—many improvements—on the ordinary fire-grate have been suggested. Some had considerable merit, and did contribute to abate the nuisance from which we all suffer, but none offered a complete and practical solution of the entire problem. A Russian civil engineer, M. O. de Clausen, recently exhibited in Paris a stove illustrating the theories he has advanced with regard to the laws of combustion. His invention had passed comparatively unperceived in the French capital. Technical juries awarded him gold medals, but the public at large and even the world of science cared little and knew less about his innovations. Yet coming beneath our notice they seemed to us likely to render such great service not only in the world of industry and manufacture, but, above all, to the cause of public health and social economy, that we invited M. de Clausen to submit his theories to the severest tests we could devise, so as to check his assertions and claims.

The formation of soot and of the highly injurious and poisonous carbon monoxide gas have always been attributed to the insufficiency of the supply of oxygen reaching the fire. But though combustion in an ordinary fire is incomplete, and therefore produces soot and carbon monoxide (CO), M. de Clausen found by analysing the smoke that it also contained a large proportion of free oxygen. How, then, could it be said that the supply of oxygen was insufficient when such oxygen as did exist was not all consumed? M. de Clausen concluded that imperfect combustion must be due to another cause, and not to the want of a stronger draught or of more air. The reason of failure is due, he declares, not to the want of air, but to the absence of a sufficiently elevated temperature to ensure perfect combustion. The combination of the right quantity of oxygen with carbon in a sufficiently elevated temperature can only produce carbonic acid (CO_2). In an ordinary fire CO_2 is formed in the lower layer of fuel resting on the grate. This gas, M. de Clausen explains, travels upwards through the

superior layers of incandescent coal which take from it one atom of oxygen, thus bringing into existence the carbon monoxide CO, and continues combustion by means of this atom of freed oxygen, and not by means of the large quantity of free oxygen contained in the air of the draught passing through the stove. The oxygen of the incoming air does not possess a sufficiently high temperature, and therefore presents far less affinity for the chemical combination than the heated oxygen derived from the decomposition of CO_2. This explains why the chemical analysis of the products of combustion in ordinary fires or stoves shows us simultaneously CO_2, CO, and O. But if the carbon monoxide produced by the decomposition of CO_2 could meet at the place where it is formed a new current of air of a temperature sufficiently elevated, it would burn and combine once more with an atom of oxygen and reconstitute carbonic acid CO_2. M. de Clausen therefore concludes that it is not the want of oxygen which determines the production of CO, but the unsuitable distribution and temperature of the free oxygen of the air amid the layers of burning fuel.

This is the first or theoretical side of M. de Clausen's discovery; it now became necessary to find its practical application. Basing his researches on Paclé and Dulong's theories—that a spherical surface takes up and surrenders a larger quantity of heat than a flat surface of the same size, and that the coefficient of the transmission of heat for spherical surfaces augments in the ratio of their curve,—M. de Clausen sought to produce a fire clay of extremely porous character, and composed of innumerable spherical particles infinitely small in diameter. For this purpose he mixed powdered magnesia with the clay, and M. de Clausen's invention rests in the special mechanical process by which he is able to mix a large proportion of magnesia with the clay without deteriorating the quality of the brick made.

By referring to the accompanying illustrations, it will be more easily understood how these theories are realised. The first gives the external appearance of the portable stove, which of course can be modified to suit the artistic fancies of the public. The second drawing represents the side section. The fuel, it will be seen, is introduced at the top by the aperture H, an operation which need be performed but once in twelve hours. M M are the iron bars of the grate where the coal rests, and J is the regulator by which air is admitted through the very small openings, about the size of an ordinary pencil, and discharged just where the fuel is in an incandescent state. The amount of air admitted by these minute openings is so small that it cannot lower the temperature of the burning coal to the extent of destroying the chemical affinity of the oxygen to the carbon. K is the ash tray. This can be drawn out so as to throw away the ash, which falls through the iron bars. The dotted lines represent a flue, by which fresh air from the outside of the dwelling can be introduced, and warmed by passing up the back of the stove, along the passage, P, and discharged at the top over the pans, F. These may be charged with plain, scented or medicated water. The third figure will give us a still clearer understanding of the system. O is the interior space charged with fuel. P represents the incandescent or burning part of the stove. There is a very slight downward current of air, so that any smoke or inflammable gases produced by the distillation of the black coal in the upper part of the stove passes downwards into the incandescent part of the fire, and is here consumed. The central walls, as shown by the shading of the drawing, dip into the incandescent part of the fire, just as the dip of a drain trap plunges into water. Thus, on the same principle as the hydraulic syphon drain trap, M. de Clausen has constructed a smoke trap. The smoke from the black coal that has not yet been ignited is consumed by passing through the smoke trap in the incandescent part of the fire. The products of combustion travel from the smoke trap up the passage *a*. Here, on both sides, they are surrounded by walls made of the porous magnesian fireclay. These walls, by reason of their special absorbing character, take up nearly all the heat contained in the gases that are the product of the combustion. This utilisation of heat is facilitated by the fact that the gases have to ascend to the top of the stove, and then descend to the bottom, before they can escape into the chimney by the flue placed on a level with the ash tray, K.

In order to determine how completely and economically combustion is effected in this stove, a large number of experiments were carried out. It is well, in deciding questions of this kind, to consider, first, what ought to be the products of the complete combustion of coal in air; and secondly, what should be the percentage amount of these products in the effluent gases. The first question can only be answered when the composition of the coal employed is known. In the experiments about to be described three varieties of coal

FIG. 1.

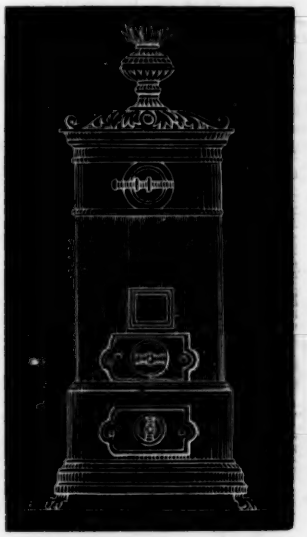
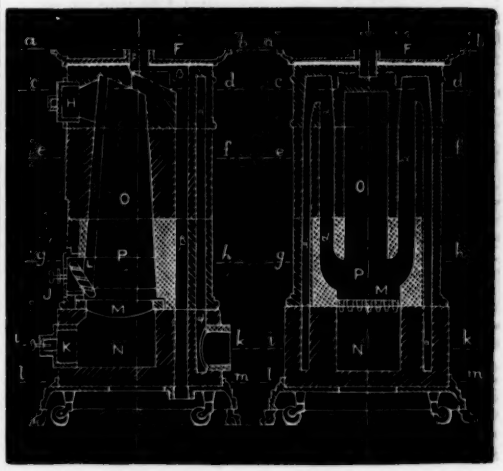


FIG. 2. FIG. 3.



were used—namely, (1) Welsh anthracite, (2) Lancashire coal (ordinary house coal), and (3) Welsh steam coal (a very hard coal). The chief variations in their composition are seen inthe following analyses:—

	Anthracite. Per cent.	Lancashire coal. Per cent.	Hard steam coal Per cent.
Carbon ...	91·00	79·95	81·00
Hydrogen ...	3·30	5·45	4·75
Oxygen ...	2·50	7 73	4·78
Sulphur ...	1·00	2·00	1·50
Nitrogen ...	0 80	1·80	1·40
Ash	1·40	3·07	6·57

Carbon is of course the chief combustible constituent, but along with it are hydrogen to the extent of from 3 to 6 per cent., and sulphur from 1 to 2 per cent. The perfect combustion of coal in air should give nothing but the oxides of

carbon, hydrogen, and sulphur—namely, carbonic acid, water, and probably sulphuric acid, and accompanying these are the unchanged nitrogen of the air and the small quantity of nitrogen which occurs in the coal. Since the composition of the coal is known, and therefore the amount of oxygen necessary for its complete combustion, the second question as to what should be the composition of the gaseous products (assuming complete combustion to have taken place) can be decided. For example, 100 grammes of the anthracite coal such as the specimen analysed would require 920 litres of air (in addition to the oxygen the coal contains) in order to be completely burnt into carbonic acid, water, sulphurous or sulphuric acids, and regarding that the steam condenses into water along with the sulphur acids, the gases passing out of the chimney would consist merely of carbonic acid and nitrogen. The amount of nitrogen in the air and also the amount of carbon in the coal being known, the composition of the exit gases is only a matter of calculation. The three varieties of coal analysed, if perfectly oxidised, would give theoretically exit gases of the following percentage composition:

	Anthracite. Per cent.	Lancashire coal. Per cent.	Hard steam coal. Per cent.
N	81·41	82·50	82·20
CO_2	18·59	17·50	17·80

It follows that if the exit gases or invisible smoke given off by a stove are found on analysis to approximate to the above composition which theory demands, then not only perfect combustion but complete utilisation of the oxygen of the air may practically be regarded as having taken place.

Passing from these theories to the practical experiments made in our laboratory, we ascertained, by means of numerous and careful analyses, that the products of combustion derived from M. de Clausen's stove yielded for the three kinds of coal used gases of the following composition:—

Coal consumed.	Nitrogen.	Carbonic acid.	Oxygen.	Amount of coal consumed in 24 hours.
Anthracite ...	81·65	18·35	—	4 kilos.
,,	82·29	15·21	2·50	3 ,,
Lancashire coal	81·08	17·00	1·92	3½ ,,
Hard steam coal	81·45	18·55	—	4 ,,

Unused oxygen to the slight extent of about 2 per cent. appears in the gases only when the combustion is permitted to proceed with comparative slowness. In the above results, for instance, it will be seen that in the case of anthracite in the second experiment the coal consumed amounted to three kilogrammes per twenty-four hours, while in the first, four kilogrammes were consumed in the same time. Again, in the case of the Lancashire coal, where three kilogrammes and a half were consumed in twenty-four hours, 1·92 per cent. of oxygen was obtained. The rate of consumption can be regulated with remarkable exactness by the adjustment of the air valves with which the stove is provided. Nevertheless, it was felt desirable to ascertain the minimum rate of consumption which would permit the perfect combustion of the coal and the utilisation of all the oxygen of the air. These experiments show that the minimum rate of consumption in this stove is four kilogrammes of coal in twenty-four hours; the oxygen of the air is then entirely used.

The following results are amongst upwards of a thousand experiments made with the Orzat gas analysis apparatus by M. de Clausen himself. The analyses were conducted under our supervision, and their accuracy was confirmed by a duplicate analysis, for which we employed the most delicate and approved apparatus used in this kind of investigation:—

	1.	2.	3	4.	5.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
CO_2 ...	13	17	17	18	20
O ...	5	2	2	0	0
CO ...	—	—	—	—	—
N ...	82	81	81	82	80
SO_2 ...	—	—	—	—	—

The gases (1) containing 5 per cent. oxygen were taken soon after lighting, and the others were collected at intervals of from thirty to forty minutes. The results of No. 4 (three or four hours after lighting) show the stove to be in full working order as regards combustion of fuel and utilisation of air; while the high amount of carbonic acid in No. 5 is probably due to a higher proportion of carbon in the particular parcel of anthracite coal used on that occasion. From the public health point of view, it is essential to observe that when the stove was not thoroughly ignited, but was burning at a low heat, and the experiments demonstrated that the highest ascertained percentage of unutilised oxygen was making its escape, still even at this, the most unfavourable moment, no products of incomplete combustion, such as carbon monoxide, acetylene or opaque smoke, were present. Thus it was shown, visually as well as by analysis, that the whole of the carbon being converted into carbonic acid gas, there was no possibility of its escaping in any other and injurious form.

It is worthy of mention, however, that in one experiment sulphuretted hydrogen and smoke were produced; but, singularly enough, this served as an excellent illustration of the theory held by M. de Clausen that air must not be forced rapidly through the burning coal if perfect combustion is desired. The presence of sulphuretted hydrogen &c. was due to the method by which the gases were collected. A large bottle of water provided with a tap was connected by means of rubber tubing with the flue of the stove. About half-way up the rubber pipe a test tube fitted like a wash bottle was interconnected. On allowing the water to run out of the bottle the gases from the stove were drawn through. After a time the sample tube was disconnected, and placed over mercury. When the water was allowed to flow out of the bottle rapidly smoke was seen to fill the tube, and lead paper showed the presence of sulphuretted hydrogen. M. de Clausen soon suggested the cause of this unfavourable result. In subsequent experiments the gases were drawn over slowly. The entire absence of sulphuretted hydrogen was then manifested. No better evidence can surely be given in favour of the hypothesis that only air in suitable quantity must approach the burning fuel. If the air is too quickly or too abundantly drawn through the fire imperfect products of combustion that are prejudicial to health, like sulphuretted hydrogen, carbon monoxide, and smoke, will be produced. No smoke could be perceived issuing from the chimney during the course of this investigation, and it may be added that the glass wool used in the Orzat apparatus to filter the gases remained perfectly white, even although upwards of 1000 samples of gases had been drawn through it. The sulphur does not, according to our tests, appear in the gases as dioxide (SO_2); but it is probably oxidised completely to sulphuric acid, for in the water used in the Orzat apparatus this acid, in notable quantity, was found. It is well known that the sulphur in coal gas burns completely into sulphuric acid. Our experiments demonstrate further that the stove is competent to deal with all kinds of coal, whether they contain a high or low proportion of sulphur or ash, or differ in physical properties, such as brittleness and hardness. The ashes produced from the burning of the three kinds of coal were perfectly white.

The current views which are very generally held on the subject of the supply of air to fires and furnaces may be opportunely and briefly mentioned here. As a practical rule 12 lb. of air per pound of coal are generally considered to be sufficiently approximate. An additional supply of air is required for dilution, but the smaller the pieces of fuel the less air is needed for this purpose. Insufficient air causes smoke or the production of carbon monoxide according to the nature of the fuel, and too much air represents loss through the excess weight of air raised in temperature.

An eminent authority on this subject argues that if the oxygen of the air is in contact with every particle of fuel during ignition in a furnace it is evident that the desideratum required in combustion would be attained; no escape of combustible gas would then ensue, nor of the carbonaceous particles which give to the gases passing up the chimney the character of smoke, and the greatest possible heat arising from the burning of the substance in air would be developed. Indeed, nothing would be wanting to extract from the fuel the benefit of its total theoretical heating power but such an arrangement of the furnace as would perfectly utilise the heat so produced. "No one, however, who has any experience as to the manner in which the fire is managed in ordinary kinds of furnaces will hesitate to assert that the above conditions are never supplied." And, again, "several modifications of furnaces have been patented of late years for the prevention of smoke, while it is alleged at the same time that the heat of the fire is increased; but it is to be feared that many of these arrangements, while ostensibly obviating one evil, produce others quite as injurious. This arises, for the most

part, from the injudicious introduction of cold air at a part where the temperature is too low to cause combustion of the inflammable vapours and portions of carbon." On the other hand, the fact that in M. de Clausen's stove perfect combustion is accomplished seems to be established by actual experiment.

The next point of importance to consider is the quantity of heat produced and the extent to which it is utilised or made available for any given purpose. M. de Clausen states that a temperature of 2700° C. may be obtained in this stove, and has been actually shown to exist just in that thin plane of heat where the combustion is most active—that is, where the glowing fuel is in direct contact with the air. Here it may be pointed out that any disturbing influence—like an excess of air, containing as it does a large proportion of inert nitrogen—would tend to lower the temperature. We had no means of ascertaining whether this high temperature was attained or not until it occurred to us that thin platinum wire, which melts at 2600° C., might possibly show it. Accordingly, about a foot of thin wire was pushed up into the stove and left there for a time. The gases in the chimney then showed 18·5 per cent. CO_2 and 81·5 per cent. N. On withdrawing the wire it was found that about three inches from the top end it had been severed by melting. The melted part of the wire no doubt coincided with the thin plane, at which place the most intense heat existed. In ordinary furnaces or fires, supposing that no more air than is absolutely necessary passes through, it will be easily understood that a great amount of heat is rendered useless by the draught in the chimney. But if, as is the general rule, the supply of air is greater than the amount assigned by theory as sufficient, an enormous quantity of heat is lost. The temperature of the exit gases in the flue of M. de Clausen's stove averaged during twelve hours 54° C. At this time the analyses showed the maximum amount of CO_2. The temperature of the room was 20° C.; the loss of heat through the chimney amounted to 34° C. Assuming the stove to be working under the best possible conditions, this means a loss of 1·3 per cent. of the total heat. But even regarding the temperature of the fire to be as low as 1000° C., then the loss by way of the chimney does not exceed 3·4 per cent. Thus at least, and probably more than 97 per cent. of the total quantity of heat, is steadily radiated into the surrounding atmosphere. This extraordinary result depends upon the very remarkable property which the magnesian brick has of absorbing heat. The porous brick appears to act, in fact, as a kind of calorific accumulator, so that when the temperature reaches a certain point radiation proceeds with a beautiful regularity; it acts as would a mass of metal which is kept permanently incandescent by some hidden source of energy.

The magnesian brick stands in a surprising manner the heat of the oxyhydrogen blowpipe, and like the lime cylinder used for the limelight it seems to yield but obstinately to the influence of so high a temperature. It is reasonable to expect that in the highest temperature which is ever attained in the combustion of coal in air this porosity, upon which so much appears to depend, would not be likely to undergo destruction. The inventor states that the part which the porous brick plays in the utilisation of heat and in the perfect combustion of coal resembles that of spongy platinum in bringing together into intimate contact the distillation products of coal with the oxygen of the air.

M. de Clausen maintains that all these principles can be applied to furnaces for factory engines, locomotives, steamships, and even to blast furnaces. How largely factories are responsible for defiling the atmosphere anyone can judge for himself who travels in, for instance, Lancashire; and, to take but one detail, how much more pleasant life in London would become if the underground railway could be run without producing any smoke. In Russia there is a small factory where M. de Clausen's stoves are made. Here a powerful furnace is necessary for the manufacture of the fireclay. Though we have only seen M. de Clausen's system applied to portable domestic stoves, he informs us that in his own factory the principle works well when applied to a large furnace. We know that a kilogramme of coal, if the combustion is complete and it is converted into CO_2, produces heat estimated at 8080 calories; but if, as is almost invariably the case in ordinary fires and furnaces, the combustion is incomplete and the coal gives off carbon monoxide, then the heat produced is regarded as only 2470 calories. For a commercial and manufacturing country like England, the immense economy in fuel represented by the difference between the figures 8080 and 2470 is of great importance; while, the absence of carbon monoxide will be of great benefit in the preservation of health. Considering that the maintenance of an equable temperature, both day and night, is essential for the proper treatment of many diseases, this stove may render great service. The poor often cannot afford to keep up a sufficient fire in the sick room; and the rich often fail to maintain a regular temperature because they cannot control the heat given off by an ordinary fire-grate. By using M. de Clausen's stove it would seem that the temperature can be regulated with great precision. With such facts before us we have thought it right to give prominence to this discovery, since from the results of our investigations we consider it is calculated to confer great benefits on the community at large.

THE PROPOSED RECONSTITUTION OF THE UNIVERSITY OF LONDON.

THE following letter to Members of Convocation on the proposed Reconstitution of the University of London has been forwarded to us for publication:—

The Senate of the University of London, after numerous revisions and variations, has at length produced a scheme for the reconstitution of the University which it has considered sufficiently complete to submit to the governing bodies of University and King's Colleges and the Royal Colleges of Physicians and Surgeons, and to other external institutions.

Before any application is made to the Crown for the grant of a new charter, embodying the proposals contained in the Senate's last scheme, it will be necessary for Convocation to express its approval thereof.

In anticipation of the immediate distribution of the scheme to members of Convocation in accordance with the request by that house to the Senate, we invite your attention to the considerations set forth below. We may state that the full text of the scheme appeared in THE LANCET of Feb. 14th, the *British Medical Journal* of Feb. 21st, and was fully commented upon in *The Times* of Feb. 17th.

1. The scheme in question differs very materially alike from that suggested by the Royal Commission, and from the one to which Convocation gave its sanction in the year 1886.

2. The new Senate is to consist of the unwieldy number of fifty-two Fellows, of whom ten only will be elected by Convocation, thus reducing the representation of Convocation from one in four (as is now the case, and as the Commissioners advised) to less than one in five.

3. Sixteen Members of the Senate will directly represent various collegiate and corporate bodies hitherto not represented on the Senate, and sixteen more will be elected by Metropolitan and Provincial teaching bodies. It is understood that the proportionate representation of University and King's Colleges on the one hand, and of the Provincial Colleges on the other, is regarded as equally unsatisfactory by those bodies.

4. Five separate standing committees of the Senate are provided for—viz., one for the London Colleges in Arts and Science, one for the Provincial Colleges in Arts and Science, one for Arts and Science Examinations of candidates not from constituent colleges, one for medicine, and one for law. These standing committees, although nominally under the control of the Senate, will evidently be influential in effecting such arrangements for examination in the matters with which they are conversant as will open the way for considerable variations in standards of graduation.

5. Convocation has not in this, as it had under former schemes, any share in the selection or revision of constituent colleges; the first list contains schools of very different efficiency, some of which have unsuccessfully claimed admission as constituent colleges in more than one faculty, while others exhibit little justification for admission in any.

6. The representation of Convocation on the Boards of Studies in each faculty is to be two members out of a possible total of twenty-four or more, instead of one-fourth of the combined Boards of Studies (Council of Education), as recommended by its special committee and carried by Convocation.

7. Power is given to the Senate to enter into arrangements with each constituent college in arts and science separately for conducting examinations for the Matriculation and Pass B.A. and B.Sc., by a College professor and a university examiner conjointly, and consequently opportunity is given for as many varieties of standard in such examinations as there shall be constituent colleges.

8. The Pass M.B. Examinations are to be conducted by examiners appointed by the Royal Medical Colleges conjointly with University examiners, under a committee elected in equal numbers by the Colleges and the Standing Medical Committee of the Senate. As this latter cannot fail to consist largely, and must consist in part, of nominees and Fellows of the two Royal Colleges, the University thus practically abandons the control of its Pass M.B. to the corporations, in direct opposition to the recommendation of the Royal Commission.

9. The Preliminary Scientific Examination, which has hitherto offered the most serious check to medical candidates, and the M.D. Examination, which confers the coveted title of "Doctor," are still to be conducted by the University. If they continue as they are, the so-called medical grievance will remain unredressed; there is, however, reason to believe that they will be modified or lowered in standard under pressure from the Corporations until the M.D. Lond. is the equivalent of the M.R.C.S. and L.R.C.P. How powerful such pressure may become is indicated by the enormous departure from the decision of the Royal Commission which the two Colleges have already succeeded in effecting.

10. Hitherto the examinations in all faculties, save the medical, have been equally accessible to, and of the same severity for, private

and collegiate students. Our examinations have won the confidence of the private student and their public repute on account of their impartial, because impersonal, character. The facilities afforded to collegiate students, under the scheme, cannot fail to place private students at a relative disadvantage.

11. Lastly, the power of conferring honorary degrees, which Convocation has uniformly opposed, is again introduced.

SALE OF PROFESSOR KOCH'S LYMPH.

THE following official rescript appeared in the German Medical Gazette of March 13th, and a translation has been transmitted to us for publication from the Foreign Office.

Professor Dr. Koch has published in the German Medical Gazette of Jan. 15th last a description of the manner in which the lymph, discovered by him for the cure of tuberculosis, is prepared, and according to this description it appears that this remedy comes within the provisions of Section 1 of the Imperial Ordinance of Jan. 27th of last year, and can therefore, with the exception of wholesale trade, only be sold by licensed chemists (apothecaries).

Chemists can at present obtain the lymph, prepared under the personal supervision of the inventor, only through his authorised representative, Dr. Libbertz, 28, Lüneburgerstrasse, Berlin, N.W. It is supplied to them in special bottles of a capacity of 1 or 5 cubic centim. These bottles have glass stoppers covered with bladder and secured by a leaden seal, bearing the letter "L." On one side they bear the name "Tuberculinum Kochii" in white letters on a black ground, on the other side a white label with the signature of Dr. Libbertz, and a note giving the date on which the lymph was prepared. Each bottle is accompanied by a printed paper containing instructions for its use.

With regard to the preservation and sale of the remedy in chemists' shops, the following regulations must be observed:—

1. The "Tuberculinum Kochii" must be kept in the poison cupboard, and in the division reserved for alkaloids.

2. It can only be sold in the original bottles, and only upon the written order of an approved physician, and delivered to such physician himself or to a person authorised by him.

3. A record of the purchase and sale of the remedy must be kept in a special book, in which each bottle must be entered. The contents of the bottle, the date of preparation, of purchase and of sale, the name of the physician to whom it has been sold, or eventually the removal of the unsold bottle from the shop, must all be noted.

4. If a bottle has not been sold within six months of the date of preparation marked upon it, it can no longer be sold or otherwise disposed of, but must be removed from the shop. Such bottles will be exchanged by Dr. Libbertz for others containing freshly prepared lymph free of charge.

5. The price of the "Tuberculinum Kochii" is hereby fixed (exclusive of the cost of packing) at 6 marks for a bottle containing 1 cubic centim., and at 25 marks for one containing 5 cubic centim.

I have the honour to request you to cause the above Regulations to be communicated to the chemists in your district for their guidance, and also to take steps to insure their due observance.

(Signed) Dr. VON GOSSLER.

Berlin, March 1, 1891.

To the Governors of Provinces and the President of Police in Berlin.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5818 births and 4238 deaths were registered during the week ending March 14th. The annual rate of mortality in these towns, which had been 24·1 and 23·7 per 1000 in the preceding two weeks, further declined to 22·1 last week. The rate was 20·7 in London and 23·2 in the twenty-seven provincial towns. During the past ten weeks of the current quarter the death-rate in the twenty-eight towns averaged 23·4 per 1000, and exceeded by 0·3 the mean rate in the corresponding periods of the ten years 1881–90. The lowest rates in these towns last week were 15·7 in Norwich, 17·7 in Derby, 19·2 in Wolverhampton, and 19·3 in Bradford; the highest were 27·6 in Oldham, 28·1 in Manchester, 29·9 in Huddersfield, and 31·1 in Blackburn. The deaths referred to the principal zymotic diseases, which had increased in the preceding five weeks from 332 to 470, declined last week to 413; they included 137 from measles, 136 from whooping-cough, 42 from scarlet fever, 42 from diarrhœa, 32 from diphtheria, 26 from "fever" (principally enteric), and not one from small-pox. These diseases caused the lowest death-rates in Wolverhampton, Derby, Hull, and Brighton, and the highest rates in Bristol, Halifax, Huddersfield, and Blackburn. The greatest mortality from measles occurred in Leeds, Portsmouth, Bristol, Huddersfield and Blackburn; from scarlet fever in Sunderland, Bolton, and Halifax; and from whooping-cough in Salford, Huddersfield, and Halifax. The mortality from "fever" showed no marked excess in any of the twenty-eight towns. The 32 deaths from diphtheria included 18 in London, and 2 each in Norwich, Manchester, Salford, and Newcastle-upon-Tyne. No death from small-pox was registered in any of the twenty-eight towns; one small-pox patient was under treatment in the Highgate Small-pox Hospital, and not one in the Metropolitan Asylum Hospitals, on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1143, and showed a further decline from recent weekly numbers; the patients admitted during the week were 64, against 80 and 87 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 685 and 677 in the preceding two weeks, further declined last week to 581, but exceeded the corrected average by 58. The causes of 88, or 2·1 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Plymouth, Nottingham, and Birkenhead; the largest proportions of uncertified deaths were recorded in Brighton, Bristol, Huddersfield, and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the preceding four weeks from 21·4 to 24·1 per 1000, further rose to 26·2 during the week ending March 14th, and exceeded by 4·1 the rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 15·4 in Perth and 17·4 in Aberdeen to 31·4 in Glasgow and 47·7 in Paisley. The 684 deaths in these eight towns showed an increase of 56 upon the number in the preceding week, and included 31 which were referred to whooping-cough, 23 to measles, 10 to diarrhœa, 6 to diphtheria, 5 to scarlet fever, 4 to "fever," and not one to small-pox. In all, 79 deaths resulted from these principal zymotic diseases, against 80 and 79 in the preceding two weeks. These 79 deaths were equal to an annual rate of 3·0 per 1000, which exceeded by 0·8 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had increased in the preceding three weeks from 13 to 34, were 31 last week, of which 20 occurred in Glasgow, 4 in Edinburgh, and 3 in Dundee. The deaths from measles, which had been 18 and 16 in the previous two weeks, rose again last week to 23, and included 13 in Paisley and 8 in Glasgow. The 6 fatal cases of diphtheria exceeded by 1 the number recorded in the preceding week, and included 4 in Glasgow. The deaths from scarlet fever, which had been 7 and 10 in the previous two weeks, declined to 5 last week, of which 3 occurred in Glasgow. The 4 fatal cases of "fever" showed a further decline from recent weekly numbers, and included 3 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 146 in each of the preceding two weeks, rose last week to 201, and exceeded by 47 the number in the corresponding week of last year. The causes of 72, or more than 10 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·4 and 28·2 per 1000 in the preceding two weeks, further declined to 28·1 during the week ending March 14th. During the first ten weeks of the current quarter the death-rate in the city averaged 31·1 per 1000, the rate for the same period being 23·3 in London and 21·1 in Edinburgh. The 190 deaths in Dublin were within one of the number in the preceding week, and included 4 which resulted from "fever," 3 from whooping-cough, 1 from diphtheria, and not one either from small-pox, measles, scarlet fever, or diarrhœa. Thus the deaths referred to the principal zymotic diseases, which had been 9 and 4 in the preceding two weeks, rose again last week to 8; they were equal to an annual rate of 1·2 per 1000, the rate from the same diseases being 1·6 in London and 1·7 in Edinburgh. The deaths referred to "fever," which had been 3 and 0 in the previous two weeks, were 4 last week. The 3 fatal cases of whooping-cough exceeded the number recorded in any week since January last. The 190 deaths in Dublin last week included 30 of infants under one year of age and 56 of persons aged upwards of sixty years; the deaths of infants showed a further decline from recent weekly numbers, while those of elderly persons showed an increase. Four inquest cases and 2 deaths from

violence were registered; and 53, or nearly a third, of the deaths occurred in public institutions. The causes of 20, or more than 10 per cent., of the deaths in the city were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.—Surgeon-Major (ranking as Lieutenant-Colonel) Thos. O'Farrell, M.D., to be Brigade Surgeon, vice J. Wilson, M.B., F.F.P.S. Glasgow, retired (dated Feb. 14th, 1891); Surgeon John Lees Hall is placed on temporary half pay on account of ill-health (dated March 3rd, 1891).

ARMY MEDICAL RESERVE OF OFFICERS.—Surgeon-Major Walter Duret Aubin, M.B., 1st or West Regiment Royal Jersey Militia, to be Surgeon-Major, ranking as Major (dated March 18th, 1891); Acting Surgeon Thos. Lyndon, M.D., 4th Volunteer Battalion, the Queen's (Royal West Surrey Regiment), to be Surgeon, ranking as Captain (dated March 18th, 1891).

BOMBAY MEDICAL ESTABLISHMENT.—The Queen has approved of the retirement from the Service of the undermentioned Officers: Surgeon-Major Bernard Callan Keelan (dated March 15th, 1891), and Surgeon-Major Septimus Jesse Goldsmith (dated March 4th, 1891).

NAVAL MEDICAL SERVICE.—Staff Surgeon James Long Sweetnam, M.D., has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet (dated Feb. 27th, 1891).

VOLUNTEER CORPS.—*Rifle:* 2nd Volunteer Battalion, the Suffolk Regiment: The undermentioned Acting Surgeons resign their appointments:—H. P. Leech and A. W. Aldrich (both dated March 14th, 1891).—5th Volunteer Battalion, the Cheshire Regiment: Surgeon P. M. Davidson is granted the rank of Surgeon-Major, ranking as Major (dated March 14th, 1891).—1st (Inverness-shire Highland) Volunteer Battalion, the Queen's Own Cameron Highlanders: John Dewar, M.B., to be Acting Surgeon (dated March 14th, 1891).

Correspondence.

"Audi alteram partem."

TRICHLORACETIC ACID AS A TEST FOR ALBUMEN IN THE URINE.

To the Editors of THE LANCET.

SIRS,—The practical value of trichloracetic acid as a test for albumen in the urine is so great that any sources of error in its employment should be carefully noted. In a letter from Dr. C. F. Heywood of New York, which appears in the February number of *Merck's Bulletin*, the writer, after speaking in very laudatory terms of the value of the test, says: "I have yet to find that it declares any *other elements* of suspected urine than albumen," and he recommends that a saturated solution should be carried about in the pocket. I have long been employing this test, both in private and in insurance examinations, and can speak very highly of its results. I have been in the habit of comparing its reactions with those given by nitric acid and picric acid, and while I have never found it fail to react in specimens in which albumen has been discovered by other tests, it has given a line of opacity in numerous samples which have been unaffected by nitric acid or picric acid. In some of these the trichloracetic acid appeared to be a more delicate test, since in cases with a history of an acute attack of nephritis the urine has often given a line of opacity after it might have been declared free from albumen when the customary tests were employed. On the other hand, the need of the warning originally given by Boymond (*Repert. de Pharm.*) has been very strongly impressed upon me by several cases—viz., that when the urine is rich in urates the reaction may appear without any albumen being present, and this possible source of error can only be avoided by free dilution of the urine before making the test.

With regard to the desirability of carrying this reagent in the pocket the effects of a crystal on a piece of blue paper or on the blade of a knife have been sufficient to deter me from making the experiment. Although trichloracetic acid may be used either in a solid or liquid form, it gives the most striking results when a good-sized crystal is dropped into the test tube containing the urine. The crystal speedily liquefies, and, if albumen is present, produces a zone of turbidity in the urine just above it, otherwise a sharply defined line marks the junction of the white acid with the yellow urine. The zone of turbidity appears immediately when due to albumen, but when due to urates it forms more slowly, and is not so wide.

I am, Sirs, yours truly,

NESTOR TIRARD, M.D. Lond., F.R.C.P.,
Senior Assist. Physician, King's Coll. Hosp.

Weymouth-street, W., March 17th, 1891.

RECONSTITUTION OF THE UNIVERSITY OF LONDON.

To the Editors of THE LANCET.

SIRS,—It is very important that the latest revised scheme of the Senate in reference to the reconstitution of the University of London should be well considered in all its bearings, and not only in those connected with the Faculty of Medicine, especially as many of the medical graduates possess degrees other than those of medicine. For this purpose I beg to offer these few remarks in supplement to those furnished lately by Dr. Collins. By the present scheme, which will be presented to Convocation for acceptance, there will be at least three different standards of arts and science degrees according to the "arrangements" made with the various colleges in London and the provinces; and in accordance with the powers reserved by the Senate, these schemes for these degrees may be, if required, multiplied to any extent to meet the demands of the colleges individually. If such be the case, how can we hope for any uniformity of standard, the syllabus of each college or of each combination of colleges necessarily varying and being of unequal value? Let such arrangements be carried out as desired by the London and provincial colleges, and the University also carry on as of old its own examinations in Arts and Science on its present lines, in all common reason the question may be asked, Of what value can such varying degrees be deemed, or how can they be designated for the comprehension of the world at large, and what probability will there be of their ever remaining at any proposed standard? Since such multifarious degrees cannot be accepted as equivalent to each other, some fanciful distinction must be made, and, taking the University examination, as *the degree par excellence*, we can suppose that some fractional designation must be devised, such as $\frac{\text{B.A.}}{\text{(King's)}}$, or B.A., with some London or provincial College as the denominator, before the public can value their relative merits. The same observations equally apply to the Matriculation and that for the Preliminary Scientific Examinations. Hence it behoves Convocation to realise the probable future of the University which submits to such arrangements as ultimately must destroy itself as a degree-giving centre. With respect to the medical aspect of the scheme, the Senate has gone further out of its way than in the matters of Arts and Science, and actually proposes to give to the two Royal Colleges great, if not absolute, control over the M.B. Examination. This seems inconsistent on the part of the Senate which now seeks to form a Teaching University, for neither of these two Colleges has any pretensions whatever to being considered as teaching bodies except so far as their few endowments for special lectures can be considered as partaking of a teaching quality. To these bodies it really will delegate its powers, subject to "arrangements" which, knowing the desire of those two Colleges, must ultimately by pressure of time and influence not only entirely control the Pass M.B., but will considerably modify the Honours Examination for the same degree, and in the end absorb the M.D. degree also. Indeed, it is reported that the teachers at one of the proposed Constituent Colleges in Medicine have already expressed a demand for such privileges. Another point in connexion with these degrees is the price at which they are to be obtained. As matters are, it is impossible to believe that they will be granted for the moderate fees which the University now receives. Any one knowing the fees exacted for passing the Conjoint Examination will readily doubt if the present scale will be adopted, especially if they are to be shared between the corporations and the University. These doubts are equally

applicable to the Arts and Science side of the question at issue.

The function of a University is to grant degrees distinct from any qualification given by colleges, and to relegate that power under any circumstances to teaching and non-teaching colleges is an innovation in the cause of education which cannot in the future bear good fruit to the University which so deserts the reason for its existence, and so annihilates itself. Such a course will be detrimental to the cause of that higher education which the University of London first established, and will finally, under the pressure of competing colleges, encourage a depreciation of the value of our degrees, which, though not backed as in the older Universities by the social standing of residence, have their mark in the world at large and command respect as an evidence of that higher education, which, under threatened arrangements (a most elastic word), will bid fair to be a phantom in the future history of our University.

I am, Sirs, yours faithfully,

Junior Athenæum Club, March 18th, 1891. M. BAINES, M.D.

THE TREATMENT OF CHRONIC INFLAMMATION OF THE UTERINE APPENDAGES.

To the Editors of THE LANCET.

SIRS,—Let me say that your leading article of this date will be the initiation of a calmer form of discussion of this question, and of a happier time for those like myself who have held to their opinions on this question through much misrepresentation and no little persecution.

I trust my friend Dr. Herman will forgive me saying that his letter is logically a *petitio principii*. "By inflammation of the uterine appendages I mean what I think most medical men understand by it" is no answer to my suggestion that the two schools of thought on this subject cannot by any possibility be speaking of the same thing. He quotes my own description of the diseases I have diagnosed and verified by production of the specimens, and then says that the great majority of them, if sufficient time and rest be given, end in diminution in size, or even practical disappearance of the lumps and cessation of symptoms. But this is precisely the opposite of my experience, and the literature of the subject abounds with cases which I have published in detail where the "time and rest," together with other appropriate treatment, has been given at the hands of competent practitioners, and no such happy ending has been arrived at. Dr. Herman does not doubt that there are some cases which can only be cured by operation—an admission I am glad to get from such an authority,—but there remains the very grave question as to which teaching is the correct one, that the majority of the cases get well without surgical treatment, or that very few get well without it.

I must urge on Dr. Herman that this comes now to be the pressing question for settlement, alike for the practice of medicine, the interest of the patients, and the credit of all classes of practitioners. My constant experience is that it is in the delayed cases that the danger and the discredit alike lie. Dr. Herman may say that as an operating surgeon my interests lie in operations. But to this I may just as well answer that to the non-operating (or rarely operating) physician undue delays have equally strong, perhaps even stronger, inducements. It must be clear, therefore, to every judicial mind that it is to the interests of all concerned that the question should be settled by logical research, and that the question should not be begged. The first step towards settlement, therefore, is to decide this question—Are Dr. Herman and I, as representatives of the different schools, really speaking of the same pathological conditions? I do not for a moment believe that we are. Why should not, therefore, Dr. Herman accept my challenge proposal? I am quite prepared to take on myself the bulk of the trouble, for there are very few weeks in which I do not spend a day in London, and the tax of passing an hour occasionally at the London Hospital would be, I am sure, amply repaid by the results of the experiment. Either Dr. Herman must accept this challenge or he must desist in future from stating that the "great majority" of these cases get well, seeing that, in his own words, "it is impossible, from the nature of the case, for one who thinks that a disease has been present and ended in recovery, to bring evidence of the fact convincing to the incredulous." If he accepts neither of these alternatives, he must not be surprised if we continue to express our incredulity forcibly.—I am, Sirs, yours faithfully,

LAWSON TAIT.

ON THE EFFECT OF THE DIVISION OF CERTAIN CONSTITUENTS OF THE SPERMATIC CORD IN THE RADICAL CURE OF VARICOCELE.

To the Editors of THE LANCET.

SIRS,—I have read Mr. Bennett's paper on the above subject in the issue of THE LANCET for March 7th with considerable interest, and can fully bear out what he states with regard to the effect on the testicle of the division of the spermatic artery and veins. In 1886 I published a series of ten cases of varicocele treated by excision,[1] the operation differing very slightly from that recommended by Mr. Bennett in his paper published in THE LANCET of Feb. 9th, 1889. I have had the opportunity of seeing many of these cases since, and find that there has been absolutely no atrophic change or other apparent alteration in the testicle, and yet in all of them not only was the bundle of veins but a portion of the spermatic artery removed, for it is quite easy, as Mr. Bennett says, to see the open mouth of the artery in the mass of tissue removed, leaving no doubt about its division. In all my cases an aseptic course was pursued, and in none was there any trouble from orchitis.

With regard to the third conclusion on the division of the vas deferens I have had no experience, but it is very interesting to know that the division of the duct should also not be followed by atrophy of the organ.

I am, Sirs, yours faithfully,

Leeds, March 12th, 1891. A. W. MAYO ROBSON.

To the Editors of THE LANCET.

SIRS,—After reading in THE LANCET of March 7th Mr. William Bennett's remarks upon his treatment of varicocele, I think it well to draw attention to the tenth volume of the Medical Society's Proceedings (1886), in which the operation I then advised for the radical cure of varicocele will be found with the discussion which took place upon it. Mr. Bennett will there see the remarks of Mr. Hutchinson, jun., upon the course of the spermatic artery as deduced from thirty dissections; and he will notice my remarks upon a method of operating which does not subject the spermatic artery or other important structures of the cord to the risk of being injured or included in the ligature. Since making this communication to the Medical Society in 1886 I have simplified the operation slightly, by making the incision over the external abdominal ring only, and not extending it into the scrotal tissues at all, as I found that it was quite easy to pull up the veins into this limited opening and ligature them; and in this situation there is no liability to injure the vas deferens, so I have discontinued the use of the pins I then recommended. But I attach the same importance to that point in which I advocated the clearing and ligaturing the veins first at the external abdominal ring, where it is easily done; and, having cut them through, to pick up the distal ends of the veins, and lifting them up to strip off the surrounding tissues of the cord as low as the upper part of the testicle; then apply the lower ligature, cut the veins through again, and allow the testicle, which has been drawn up to the wound, to slip back into the scrotum. In this way I have operated upon a large number of cases, in a few instances removing the veins of both sides at the same operation, and often doing the operation in association with the radical cure of hernia, and I have had unvarying success both as regards the rapidity of healing of the wound, the cure of the affection, and the satisfactory condition of the testicle. Several cases have been afterwards admitted into the services.

I have not found the testicle diminish in size in any case, but, on the contrary, it usually increases. In some cases I have observed that there is a tendency for the tunica vaginalis to become slightly distended with fluid when the

[1] Brit. Med. Jour., Feb. 27th, 1886.

patient first begins to walk about, but this condition disappears during the night when the patient is lying down.

I am, Sirs, yours truly,

A. BOYCE BARROW,

Senior Surgeon, Royal Free Hospital, Assistant Surgeon, King's College Hospital.

Welbeck-street, W., March 18th, 1891.

THE NATURE OF ANGINA PECTORIS.

To the Editors of THE LANCET.

SIRS,—With reference to the recent discussion on angina pectoris and the interesting leading article in the last number of THE LANCET (March 14th) may I suggest that sufficient stress is not laid on the statement that during an attack of angina the pulse *may* be unaltered in character? This statement seems to be definitively accepted, and I need only mention as guarantors thereof the names of Walshe, Balfour, Broadbent, and Gairdner. But if we accept this statement, how can we escape the conclusion that angina pectoris *may* be independent of heart failure? If the heart's action is embarrassed, if there is lack of ventricular power or excess of peripheral resistance, or, in fact, *mechanical* failure of any kind, and however brought about, how can the pulse remain unaffected? The pulse gauges the efficiency of the heart better than any thoracic examination, and if the pulse do not fail the heart does not fail. I cannot hope to add to the cogency of Professor Grainger Stewart's words in the recent discussion, for so long as the above statement remains undisputed they possess the cogency of logical necessity.

I am, Sirs, yours faithfully,

Welbeck-st., March 17th, 1891. HARRINGTON SAINSBURY.

FACTORY SURGEONS.

To the Editors of THE LANCET.

SIRS,—There are many factory surgeons who have given up a portion of their practice in order to perform a public duty, and these Mr. Matthews would cast adrift although there was nothing in the appointment that their services would be dispensed with in a summary manner without compensation. Hea'th officers who have given up their practices and taken up public health appointments are liable to the same treatment, but still they are only appointed for a period. They are as sure of a permanency as we were, but their life is as uncertain, and may be cast off as "unnecessary and costly," quite as untrue as in our case, who have rejected scores of boys and young people on account of age and incapacity. The Government has been asked to release "Barabbas" to the mob, and they in their turn must release him or fear themselves that they will be dismissed as "unnecessary and costly." When zymotic diseases decrease, will the Government discharge medical officers of health and public vaccinators as "unnecessary and costly," and call in the services of a private practitioner, or keep them to preserve the present condition? Cheap labour can always be obtained from crippled and scrofulous children, and would be plentifully supplied by drunken parents, and they could work for months together without fear of an inspector's arrival, for at the present time the demand on his time is far greater than the supply. Instead of dismissing men who have done good service and are willing to be more useful, they should be made answerable for all sanitary work in factories and should pay periodical visits to see that the health of the employed is in no way damaged by their occupation. The factory surgeons are considered to be "unnecessary and costly" in the eyes of Mr. Matthews; would he explain that costliness? Does it consist in receiving six warm coppers fished up out of the trousers pocket of a factory lad, or the payment of a fee of 4*s.* for a two-mile journey and report on an accident and seeing that machinery is properly guarded. This is the only fee which comes out of the Treasury. Costly indeed as regards leather—but these small fees are acceptable to men who have relied on them for years, and framed their practice in order to do their public duty to unprotected children. Far better to attend to the health of the rising generation than to spend money on books for them when their weakly frames are too attenuated to study in reading-rooms. The matter should be plainly put before the public, and let them have a voice in it.

I am, Sirs, your obedient servant,

March 18th, 1891. UBIQUE.

RESPONSIBILITY IN ANÆSTHETISING.

To the Editors of THE LANCET.

SIRS,—I have read your remarks on the above subject and the moral you draw—"Let no one undertake the responsibility of giving chloroform unless in the presence of another medical man"—with much interest, and I wonder what advice you will give to the many isolated medical men in the country districts of this colony, who are often compelled to undertake the double rôle of anæsthetist and operator. Like many of our profession at the Cape, I am living about fifty miles distant from any other medical man, and many of my patients cannot afford the fee charged by a second doctor, who must travel most of the way in a Cape cart; hence I am obliged in nine out of ten cases to give chloroform and operate alone. During eight years I have performed nearly one hundred and forty operations necessitating chloroform, and, although alone, have not had one fatal case, and only once alarming symptoms, amongst patients whose ages have varied from a few months to seventy-two years. The mortality from anæsthetics during operations is, as far as I can learn, in this colony extremely low, due, no doubt, in a large measure to great care in administration, and also to our glorious climate. Sole responsibility in operative practice carries with it increased anxiety for the doctor, and who of us does not feel it?

I am, Sirs, yours faithfully,

J. HERBERT MEARNS, M.D.

Prince Albert, Cape of Good Hope, Feb. 23rd, 1891.

THE PHONOGRAPH IN MEDICINE.

To the Editors of THE LANCET.

SIRS,—In your annotation on this subject in your last issue you express a hope that the phonograph will prove of use in medicine. I agree with you it will be useful in recording defects of speech; but it may save the time of some of your readers to know that at present it is useless for recording cardiac or pulmonary sounds, for if the vibrating membrane (usually glass) is sufficiently delicate to take up these sounds, it also records all faint extraneous sounds, such, for example, as those very slight ones produced by the machine; hence all that the phonogram emits is a confused noise, in which the cardiac or pulmonary sounds are quite indistinguishable.

I am, Sirs, yours faithfully,

Harley-street, March 14th, 1891. W. HALE WHITE.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The General Hospital.

THE annual meeting of the governors of this hospital was held on the 18th inst., under the presidency of the Hon. A. C. G. Calthorpe. The report noted that there was a decrease in the cost of maintenance from £2 17*s.* 6*d.* in the previous year to £2 10*s.* 6*d.* in the year just ended; the other details also were satisfactory. With regard to the subscription list for the new hospital, it was stated that over £84,000 was the present amount. As affecting the professional staff, two important alterations in the laws were made at this meeting—viz, that no medical officer should retain office after he is sixty-five years of age, and that no surgical officer should retain office after he is sixty years of age. The next alteration was that these officers should be appointed in the first instance for fifteen years, and that a general meeting should have the opportunity of further appointing them for a period not exceeding ten years, subject to reference to a subcommittee. It is believed that these amended laws will have a good effect in the interests of the hospital and of the profession.

The Women's Hospital.

The annual meeting of this hospital was held on the 18th inst. The Mayor, Alderman Clayton, presided. The report stated that there had been a decrease in the out-patient numbers of 192, and in the in-patient department a decrease of 57. The total number of patients treated during the year was 15,067. The balance-sheet showed that the total expenditure for the year was £1869 6*s.* 5*d.*, which was £14 9*s.* 2*d.* in excess of the income. It was resolved to pull

down a present ward and build a new one in its place at an expense of £1500.

Queen's and Mason Colleges.

The proposed scheme to transfer the medical department of Queen's to Mason College is progressing satisfactorily. The outcome of the meeting held on the 19th inst. will have a material influence in settling the matter if the sanction of the Court of Chancery can be obtained. The Government grant now obtained by Mason College is £1400, and this would be much increased by the amalgamation. The Mason College funds would be considerably augmented for teaching purposes, and a substantial benefit accrue to the medical school.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Assizes: Trials for Murder.

A PORTER named Penfold, aged thirty-one, was tried before Mr. Justice Day on the 13th inst. for what was locally termed "The Murder in a Cab." The deceased was a young woman of the unfortunate class, and both she and the prisoner had been drinking heavily for some days before December 17th last, the date of the fatal event. The two were seen to enter a cab, and when it stopped at the desired destination the prisoner informed the cabman that he had stabbed the girl because she asked him to do it. The prisoner made no attempt to escape, and was at once taken into custody. The deceased was taken to the Royal Infirmary, and attended to by the house surgeon, but she died in twenty minutes after her arrival there. On post-mortem examination six punctured wounds on the left side of the chest were found. One penetrated the heart and another went through the heart to the liver. The absence of any motive suggested a doubt as to the prisoner's sanity, and evidence was given that his mother and other members of the family suffered from nervous diseases. But there was no evidence to show that the prisoner was insane when he committed the act, that he was insane now, or that he ever had been so, and the jury, without leaving the box, returned a verdict of "Guilty."—On the same day a married woman aged twenty-nine was indicted for the wilful murder of her infant child. On being called upon to plead she burst into a hysterical fit of crying. It was proved by the evidence of Dr. Joseph Wiglesworth, medical superintendent of Rainhill County Asylum, and of Mr. George Beamish, medical officer of Her Majesty's Prison, Walton, that she was suffering from melancholia and delusion. She was therefore acquitted, and ordered to be detained during Her Majesty's pleasure. She cut the child's throat, and then gave herself up to the police.—A third trial for murder took place on the 16th inst. The crime having been committed on board the British ship *Buckingham* while she was on the high seas on Oct. 11th last, the prisoner being the cook of the vessel, a Hindoo named Jassiwarra, and the deceased, Peter Lyall, the captain. Though contrary to his nationality, the prisoner appears to have volunteered to act as cook; he latterly took a dislike to the work, and neglected his duty. This led to words from the captain, who, according to the prisoner's statement, struck him twice, but this was not seen by any of the crew. The captain was found dead soon afterwards, with two wounds, one over the right eye and another over the left temple. A knife was found, on which Dr. Barron observed blood; he was of opinion that the wounds were the cause of death. The prisoner was seen to be sharpening the knife previously to committing the murder, and he had also been heard to threaten the captain if the latter struck him. He was found guilty, with a strong recommendation to mercy on the grounds of the provocation he had received.

Liverpool, March 17th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The late Weather in the North.

IT is computed that 300,000 tons of snow fell in the city of Newcastle on the night of March 7th and the morning of the 8th. This is exclusive of parks, cemeteries, and large open spaces. Nearly one-third of this fell on streets, and, together with the snow falling from and cast from the roofs of houses, will give a total quantity of at least 120,000 tons to be dealt with. Much of this had to be twice removed—first, to the sides of the streets, and, secondly, carted away—so that it may be estimated that altogether 200,000 tons have been dealt with, the Corporation employing for the purpose 700 men.

White-lead Poisoning in Newcastle.

Another of those poisoning cases so common in Newcastle among female workers in white-lead factories occurred last week. It was shown that the girl, aged eighteen, had been in good health when she went to the factory nine months ago, but since then she had suffered from pains in the head and stomach and vomiting of green matter. At last she was brought home in a convulsive attack, from which she never rallied. The jury found that the deceased died from the effects of lead poisoning. These verdicts are returned with sad regularity, but it is really strange that this work is allowed to go on.

Conversazione in Newcastle.

One of the most successful gatherings of the season was held last Friday, in the museum of the Natural History Society, under the auspices of the associated artistic, literary, and scientific clubs and societies of the city. The proceedings were opened by the mayor, and there was a very large audience. Microscopical research was well represented, and the company ranged freely through the corridors and galleries of the very fine building, viewing such objects as Bewick's original drawings, Hancock's drawings and Collection of British Birds, and the Athey Collection of Fossil Fish, &c.

Cumberland.

A motion of some consequence to the general practitioner, unless he prefers to submit to a process of extinction without demur, was carried in the Carlisle School Board last week. It is to the effect that the certificates of health required by pupil teachers and monitors be given by the medical officer of health. It was in vain that a member (Canon Waterton) showed and argued that the family medical man, who was likely to have a far more competent knowledge of the constitution &c. of the candidate, should be paid by the Board, and employed to certify; and he moved an amendment, which was lost, to that effect. There has been an outbreak of scarlet fever at Isel, in the Cockermouth Union, and the medical officer has obtained authority to close the school at once.

Phthisis in High Altitudes in England.

The medical officer of health for Alston, noted as the highest market town in England, reports a death-rate of 13·9 per 1000 for the past year on the current census, but he believes that the new census will show a decrease in the population, which would of course show a corresponding increase in the death-rate. Influenza had caused two deaths, and he believes it had sown the seeds of consumption in many cases. The medical officer for Nenthead, in the same district, says that phthisis was far more prevalent than might have been expected, considering the high situation and the pure rarefied air. Something of this he also believed was due to consanguineous marriages. I may remark in reference to this that the large number of patients (comparatively for a sparsely populated district like that of Alston) presenting themselves at the institutions of Newcastle with defects and diseases of sight and hearing has often been noted.

Newcastle-upon-Tyne, March 18th.

EDINBURGH.

(FROM OUR OWN CORRESPONDENT.)

Royal College of Physicians, Edinburgh.

IN terms of the bequest made to this College by the late Dr. John Parkin, a Fellow of the College, a prize is offered for the best essay on the "Curative Effects of Carbonic Acid Gas or other forms of Carbon in Cholera, the different forms of Fever, and other Diseases." The prize is £100, and is open to competitors of all nations. Essays must be received by the secretary not later than Dec. 31st, 1892.

Edinburgh Maternity Hospital.

The annual meeting of this hospital was held at the end of last week, Professor Grainger Stewart presiding. In the report it was stated that 293 patients had been treated, as compared with 266 in the previous year; and the out-door patients numbered respectively 661 and 707. Three of the patients died, but these suffered from a complication of troubles when admitted. Forty-eight nurses passed through the hospital curriculum. The financial position showed a balance to the credit of the institution.

Odonto-Chirurgical Society.

At the annual meeting of this Society, held last week, after the business report was submitted, Dr. Clouston read a paper on the Hard Palate in its relation to Brain Development, in which he went over ground dealt with in the Morison lectures. His reason for the communication was to stimulate investigation and collect additional facts.

Medical Appointments.

The directors of the Sick Children's Hospital have appointed Mr. R. D. Rudolf, M.B., C.M., and Mr. Henry Greville Huie, M.B., C.M., to be resident physicians in the hospital for six months from May 1st. Dr. Alexander Black has been appointed a surgeon to the Ear and Throat Dispensary, in place of Dr. Maxwell Ross, who has been appointed medical officer of health for the county of Dumfries.

Close of the Winter Session.

The winter session of the medical classes in the University, and the School of Medicine, Edinburgh, terminates on Friday. The first professional examinations begin next week, and the second professional the week after.

Health of Edinburgh.

The mortality last week was 114, and the death rate 22 per 1000. Diseases of the chest caused 50 deaths, and zymotic diseases 8, of which 4 were from whooping-cough. The intimations for the week were typhoid fever, 16; diphtheria, 3; scarlatina, 22; and measles, 53.

The Victoria Dispensary for Consumption.

A meeting in connexion with this institution was held on Monday. Professor Grainger Stewart, in speaking about the work done by the dispensary, said with regard to the future treatment of disease in Edinburgh it would be necessary to double the size of the Royal Infirmary and build a new wing to the Maternity. He said it was deplorable that their young students should have to pay £5000 a year to the infirmary and get nothing like what they ought to get in the way of clinical experience in return. In addition he moved that every effort be made to extend the usefulness of the Victoria Dispensary and to provide hospital accommodation, where suitable cases recommended from the dispensary might be treated in-doors. A committee was appointed to carry out the objects of the resolution.

March 17th.

DUBLIN.

(FROM OUR OWN CORRESPONDENT.)

Stewart Institution for Imbecile Children.

THIS institution, the only one of the kind in this country, has accommodation for eighty beds—a very small number when contrasted with the fact that the last census showed that there were between 7000 and 8000 imbecile children in Ireland. The accommodation being inadequate for the applications for admittance, the committee have determined to enlarge the present building. Dr. Kidd, who has taken a very active part in the institution since its formation, recently pointed out that the outlook for support is encouraging, and subscriptions have not fallen off. There is a sum of about £3000 available for the required purpose.

Dublin Sanitary Association.

The committee in their annual report regret that the Act for the Notification of Infectious Diseases has been adopted in only one out of seven townships adjoining Dublin. The Act has been made operative by almost every sanitary authority in England, and ought to be adopted by all Irish authorities; for if outbreaks of infectious disease are to be successfully coped with, provisions such as those contained in the Act must be complied with universally. The Infectious Disease (Prevention) Act was passed last year, but is an Act which requires adoption by the local authority in order to make it operative in any particular district, and as a result of this, it has not been adopted by any authority in Ireland. As is well known, the sanitary arrangements of a large number of houses in the city and suburbs are still in an unsatisfactory state, and the unenviable notoriety which Dublin has acquired on account of its high death-rate will not disappear until the defective system of drainage which so largely exists is rectified. Mr. Pim, the President, in an excellent address, in which he referred to the sanitary work accomplished in Dublin of late years, alluded, among other topics, to the condition of the tenement houses, which he regarded as one of the greatest sources of the high death-rate. The Corporation have erected blocks of buildings for workpeople, but so foul was the Augean stable which had to be cleansed, so enormous is the mass which still remains to be moved, that all that has been done seems as yet but a drop in the bucket. Yet it has already appreciably affected the general death-rate, and as the working classes are better housed and more attention is paid to domestic drainage year by year, the good results must sooner or later appear in the improvement, gradual though it may be, of the health of the citizens of Dublin.

Memorial Tablet to George Tate, M.D., Surgeon A.M.D.

A tablet in memory of the late Surgeon Tate has recently been placed in Downpatrick Church. The deceased, when only twenty-six years of age, died at Kasauli, India, in July, 1889, and the tablet has been erected by his brother officers who mourn his untimely death.

At a meeting of the Macroom (co. Cork) Dispensary Committee last week, Mr. O'Donoghue was elected medical officer in the room of Mr. White, resigned.

A fancy ball in aid of the Dublin Orthopædic Hospital will be held on April 8th.

Dublin, March 17th.

PARIS.

(FROM OUR OWN CORRESPONDENTS.)

French Pharmacy and its Future.

MOST of your readers are doubtless aware that as there are in France two grades of medical practitioners—viz., doctors of medicine and *officiers de santé*—so there exist two orders of chemists, *pharmaciens de première* and *pharmaciens de seconde classe*. A movement has been initiated of late years tending towards the suppression of the inferior grade in both branches of the healing art. A Bill regulating the practice of pharmacy, and drawn up by the ex-Minister, M. Lockroy, has been reported on by a parliamentary committee, which approves of the reforms indicated above, and in addition pronounces against the plan of allowing hospital and infirmary dispensers to deposit at dispensaries and relieving offices medicaments specially prepared by them for distribution to the sick poor by persons designated by the said dispensers. The conclusions of the committee have been adversely criticised by the Comité Consultatif d'Hygiène Publique, who allege as reasons for the rejection of these two provisions the fact that the second grade pharmacists constitute two-thirds of the 7100 chemists who ply their calling in France, and, further, that one-fourth of the cantons have no resident chemist at all. The Comité d'Hygiène recommend the abolition of the trade of herbalist on the ground of that hybrid relic of a darker epoch being *de trop*, and also because of the considerable amount of illegal advice given at these botanic depôts. While on the subject of pharmacy I may mention that the *Progrès Médical* has for some years advocated the taking up of this branch of industry by women. I myself have often speculated on the reasons which induce women, who so loudly complain of the limited scope allowed them in the choice of a career, to prefer the more anxious and arduous, if more dignified, functions of a medical practitioner to the obviously more appropriate calling of a chemist. At the dispensing counter the special genius of women for detail and delicate manipulation would find a fitting field

without exercising an undue strain on their physical powers, and undermining their health by the anxieties inseparable from the carrying on of a medical practice. The true reason is, probably, that the one calling ranks as a trade, while the other—the favoured one—is a profession. In France there are a few *pharmaciennes*, the best known of them being officially attached to the *lycée* of Toulouse. Should the second-grade chemist, whose existence is menaced by legislation, be allowed to survive, the examination tests required of him should not prove too heavy a tax on the intelligence of the average educated Frenchwoman.

A Novel Mode of contracting Syphilis.

At the last meeting of the Société de Dermatologie et de Syphiligraphie, M. Feulard reported the case of a man who, having been treated at St. Louis Hospital for post-scabious eczema, principally of the arms, sought re-admission for syphilitic roseola. Researches made as to the seat of inoculation of the virus revealed an enlargement of the epitrochlear gland, and hard chancres of the posterior surface of the right forearm, of the elbow of the same side, and of the left elbow, the genital organs being free from all sores. It was remarked that the chancres corresponded with the points which would touch a table when, the arms being folded, it served as a *point d'appui* for those members. It is consequently surmised that the raw eczematous surfaces on the backs of the arms became inoculated by contact with an infected table in the ward. M. Besnier remarked that instances of the contraction of syphilis in the wards of a hospital were extremely rare, it being probable that the activity of the virus deposited on instruments, furniture, &c., is only of limited duration. The only exception is the frequent transmission of the disease by means of the Eustachian catheter. M. Lailler cited a case where syphilitic infection occurred at a hospital through a vaginal cannula in indiscriminate use for all the patients. M. Verchère had noted a similar case.

Salol as an Antiseptic in Cancer of the Uterus.

Of the symptoms characterising cancer of the uterus in its later stages, more especially when it is complicated by a vesico-vaginal fistula, none is more trying to the poor sufferer than the repulsive odour proceeding from the diseased surface. The palliative means in ordinary use, such as injections of carbolic lotion, sublimate and iodised solutions, vaginal suppositories of iodoform, &c., are only partially successful in mitigating the fetor which renders the last days of the patient a veritable martyrdom to herself and to her *entourage*. In salol administered internally in daily doses of from two to four grammes (increased if need be to six or eight grammes, and continued uninterruptedly for a long time) Dr. Marty of Toulouse claims to have discovered a sovereign remedy for this state of things, provided there be a communication between the vagina and the bladder. The urine, flowing constantly over the diseased tissues and impregnated with the products of the decomposition of the salol—viz., a phenylsulphate and salicylic acid—keeps the parts sweet, and its action adds greatly to the comfort of the patient.

Le Médecin Militaire Malgré Lui.

An incident reported in the *Temps* of the 9th inst. has excited some expostulatory comments in several medical organs. I refer to the refusal of the Minister of War to accept the resignation of his commission by an army surgeon. M. de Freycinet bases his action in this matter on the discretionary powers vested in him by the law of 1834. Referred to the judgment of the Council of State, the controversy has been decided in favour of the Minister of War. It is certainly difficult to discover wherein the unlucky *médecin aide-major* erred in expecting his application to be acceded to, seeing that a provision of a decree promulgated on the 15th of June, 1880, renders obligatory the reimbursement of sums expended by the State for the education and maintenance of those officers who quit voluntarily the Army Medical Service before the expiration of their term of engagement (ten years). This condition the officer in question was, it appears, quite willing to fulfil. The *Bulletin Médical* states that the reason for Ministerial refusal is not far to seek. Government dreads the possibility of resignations becoming contagious in the *corps de santé militaire*.

Paris, March 17th

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Medical Education in the United States.

THE annual report of the Illinois State Board of Health contains the elaborate report of its secretary, Dr. John H. Rauch, on medical education, medical colleges, and the regulation of the practice of medicine in the United States and Canada. The present report is far more complete than any of its predecessors. It is, in fact, an exhaustive review and exhibit of all of the medical teaching and licensing bodies in this country. As this is the tenth annual report it affords a favourable opportunity of showing the progress of medical education during this period. In 1882 there were 135 medical colleges, and in 1891 148. The number of colleges requiring certain educational qualifications for matriculation in 1882 was 45; in 1886, 114; in 1889, 117; in 1890, 124; in 1891, 129. In 1882 the number of colleges that required attendance on three or more courses of lectures before graduation was 22; in 1886, 41; in 1889, 47; in 1890, 64; in 1891, 85. Of the 148 colleges, all have chairs of hygiene but 14. The duration of lecture terms has increased from an average of 23·5 weeks in 1882–83 to 26·3 weeks in 1890–91. The number of colleges having terms of six months or more is now 111, as against 42 in 1882–83. There are now 32 examining and licensing bodies which do not give instruction. There are 34 colleges that now or soon will require four years' study and three courses of lectures; 11 that now or soon will require four years' study; 4 that have or soon will have four courses of lectures. The total number of matriculants in all of the colleges in 1889–90 was 14,884, and the total number of graduates was 4492. We may form some estimate of the present status of homœopathy from the fact that the number of matriculants in its schools was 1128, and that of its graduates 391. It appears that there are 6 medical colleges for women in the United States and 2 in Canada. There are 5 medical colleges for coloured students.

A Medical College for Women.

An effort is being made to establish a Women's Medical College connected with the Johns Hopkins University, Baltimore. Several wealthy ladies have combined to raise the requisite amount of money. This College will be organised on a very broad basis, and the course of instruction will, I hear, be most thorough.

The American Public Health Association.

This body held its annual meeting recently at Charleston, South Carolina. Among the delegates in attendance were two representing the Superior Board of Health of Mexico and several from Canada. A large number of interesting papers were read and discussed. The prophylaxis of tuberculosis excited much interest, and a committee was appointed to formulate practical prophylactic measures against that disease. One of the Mexican delegates read an elaborate paper on the Federal District in the Republic of Mexico as a Suitable Residence for Persons predisposed to Tubercular Affections and for the Relief of Pulmonary Consumption. Another paper on the Prevention of Tuberculosis reviewed a century's supervision in Italy under the influence of the preventive laws of the kingdom of Naples enacted in 1782. The incoming President is Dr. Frederic Montizambert, of Quebec, Canada.

Death by Neuritis after Dissection of a Rabic Subject.

The assistant pathologist at the New York Hospital, Dr. H. W. Stevens, made a necropsy on Jan. 23rd on the body of a man who had died of hydrophobia. He had previously injured his forefinger while dissecting, and the sore was not healed at the time. To guard against danger, he applied to Dr. Paul Gibier, of the Pasteur Institute, and had a series of injections made to protect his system against the possible presence of rabic poison received at the necropsy. These were made from Jan. 26th to Feb. 9th, when he was seized with severe nerve pains and paralysis of the lower limbs. His disease assumed the form of multiple neuritis and rapidly proved fatal. Horsley and Bristowe have described a form of paralytic rabies, but this case is not believed to be due to the injections. There is much speculation as to the exact nature of the exciting cause of the disease. Dr. Stevens was himself much alarmed after the exposure, and apprehended troubles.

New York, March 2nd

Medical News.

UNIVERSITY OF OXFORD.—The Final Examination for the degree of Bachelor of Medicine will commence on Monday, June 1st, and the examination for the degree of Master in Surgery will take place on Thursday, June 11th. Names, with the statutable certificates and fees, may be sent to the Secretary of the Boards of Faculties at any time before May 30th.

NEW FEVER HOSPITAL AT CLECKHEATON.—On the 14th inst. the memorial stone was formally laid of a new fever hospital for the North Bierley District. The site comprises upwards of four acres, and cost £837. It is central and midway between the Cleckheaton and Low Moor Stations. The buildings will contain an administrative block, a pavilion of two wards and twelve beds, an isolation block, with four wards and ten beds, and necessary offices.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT, MANCHESTER.—The sixteenth annual report states that during the year 1890 the number of out-patients attending had been 5880, and the total attendance was 31,140. At the hospital at Bowden 231 in-patients were treated. The enlargement of the in- and out-patient departments at Bowden was in progress, which would provide the extra accommodation required. The financial statement shows a deficit of over £300.

LOUGHBOROUGH HOSPITAL AND DISPENSARY.—The work of this institution during the past year maintains its claims for a continuance of the liberal support hitherto accorded to it. There has been an increase in the numbers both of out- and in-patients, the excess in the latter department being twenty-three more than the previous year. The expenditure for the year had exceeded the income by upwards of £60. It has been decided that the title of the hospital shall be altered to "The Loughborough District Hospital and Dispensary.

EAST LONDON NURSING SOCIETY.—The Princess Christian, the president, was present at the annual meeting held on the 12th inst. at Lowther Lodge, Kensington Gore. Viscount Cranbrook, who presided, gave an interesting account of the work and objects of the Society. It aimed at getting nursing possession of the whole east end of London, consisting of 100 parishes. It had twenty-seven on its hands, and its work was conducted on strictly non-sectarian principles. The Society had existed for twenty-one years, and, according to Sir Henry Acland, required £6000 a year.

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Dean Plumptre bequeathed £2000 to the Wells Cottage Hospital.—The Leathersellers' Livery Company has granted donations for the present year to the metropolitan hospitals and charitable associations amounting to £1653 15*s.*—The Queen has made a further donation of twenty guineas to the East London Hospital for Children, Shadwell.—The late Miss Mary Baird, of Camelon, left £1000 to the Edinburgh Royal Infirmary; her sister Mrs. Eliza Beatson, also of Camelon, also left the Royal Infirmary £1000.—By the will of the late Mr. Nathaniel Clayton of Lincoln £1000 has been left to the Lincoln County Hospital and £500 to the Lincoln Dispensary.—Mr. Samuel Burdge, late of Bristol, bequeathed £300 to the General Hospital, Bristol.—A legacy of £600, bequeathed by the late Mr. Donald Cooper (Dundee) to the Dundee Royal Infirmary, has become payable to that institution by the death of his sister.—The Grocers' Livery Company has made a grant of £50 to the Great Northern Central Hospital.—The late Mr. Andrew Pickard, of Ossett, bequeathed £1000 to the Dewsbury and District General Infirmary.—Mr. Charles W. Lea, of Parkfield Hallow, Worcester, has forwarded a donation of £1000 to the Worcester Infirmary.—By the will of Mr. George Thomas Bennett, of Kilburn, £100 each is bequeathed to the Middlesex Hospital, University College Hospital, and the Seamen's Hospital, Greenwich.—The Hon. Algernon Tollemache, of Montrose House, Petersham, Surrey, has sent a donation of £100 to the Royal Hospital for Diseases of the Chest, City-road.

FOOTBALL CASUALTY.—On the 5th inst., a youth, whilst playing at football at Clevedon, fractured his arm, which was also dislocated at the elbow.

PRESENTATION.—At the close of the first aid course of lectures (St. John Ambulance Association) given at Ballymena, co. Antrim, a presentation was made to Dr. Alexander D'Evelyn by the members of the ladies' class, as a testimony that they appreciated his kindness and patience as their lecturer.

DEATH THROUGH TIGHT LACING.—On Saturday an inquest was held at Kingston on Ellen Mary Lewis, aged twenty-two, a single woman, residing at 8, Down Hall Villas, Lower Ham, Kingston, who died suddenly at the Steam Laundry, Oil Mill-lane, Kingston. Dr. Reginald Bayley, of London-road, Kingston, said he found traces of pneumonia, but in his opinion the immediate cause of death was sudden failure of the heart's action, brought about by tight lacing. A verdict in accordance with the medical testimony was returned.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL. The annual report states that 300 patients were admitted during the past year, an excess of 55 on the previous twelve months, and the number treated was 63 more, being the highest on record. The total number of out-patients was 1643. There was an increase of £167 in the expenditure, for necessary miscellaneous requirements, and the income amounted to £2071 11*s.* 3*d.*, the highest yet recorded. Plans for additions to the hospital had been prepared, and the outlay will exceed £5000, which it is proposed to defray out of invested funds, together with subscriptions given specially for that object.

HULL ROYAL INFIRMARY.—The annual meeting of the governors was held at the hospital on the 12th inst. Mr. W. R. King, J.P., chairman of the board, presided. In moving the adoption of the accounts, which was unanimously carried, the chairman congratulated the governors on the satisfactory state of the balance sheet. The annual report showed that during the year 1890 11,588 patients received the benefits of the institution. By the liberality of special donors during 1889–90 the charity had been entirely relieved of the embarrassment which had existed during the last two years, and the accounts of the twelvemonth under review closed with a balance at the bankers. The ordinary receipts amounted to £7994.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—The annual meeting of the governors was held at the hospital on March 10th. Lieut.-Col. Thorneycroft presided. The chairman opened the proceedings by moving the adoption of the report, which had already been circulated. He referred to arrangements which had been made for the treatment of women subject to diseases peculiar to their sex. There was a separate building set apart for them. The report was adopted. A letter was read from Miss Lonsdale, matron of the Sister Dora Convalescent Home, Milford, near Stafford, offering a free cot in that institution for children of both sexes. There would be no expense to the hospital in connexion with it. It was remarked that Miss Lonsdale's offer was practically a free gift to the hospital.

ROYAL STATISTICAL SOCIETY.—Dr. Mouat read a paper before this Society on March 17th on Prison Ethics and Prison Labour, in which questions relating to the regulation of gaol industry, its bearing on free labour, and the encouragements which may be allowed to a convict in the disposal of the portion of his earnings sanctioned, without prejudice to good discipline, were categorically answered by the lecturer. He concurred in Howard's principle of treating prisoners—"Make them diligent and they will be honest,"—and quoted an inscription in the room of the prison of San Michel in Rome: "It is of little advantage to restrain the bad by punishment, unless you render them good by discipline." Principles such as these Howard considered to be "an expression of the grand purpose of all civil policy in relation to criminals." Prison labour, as the best of all instruments for the punishment of crime, was then considered in its disciplinary aspect, in the action of courts of justice, and of the laws in relation to labour sentences, and in the economic objections to prison work, one branch of which was the subject of a recent representation to the Home Secretary.

UNIVERSITY OF CAMBRIDGE.—At a meeting of the Master and Fellows of Jesus College, held on the 12th inst., Mr. John George Adami, M.A., M B, formerly scholar of Christ's College, was elected to a fellowship Mr. Adami is University Demonstrator of Pathology and John Lucas Walker student of pathology.

KENT COUNTY OPHTHALMIC HOSPITAL. — The annual report just issued is a satisfactory record of the work done during the past year. 332 in-patients had been treated, which was the largest number in any year since 1869, the average for the last twenty-one years being 268. The balance sheet showed that the sum of £362 6s. 3d. was in hand. It is proposed to erect a commodious room to be set apart for a chapel, a want which has been long felt.

INSANITARY CASUAL WARDS.—At the meeting of the Lambeth board of guardians on Wednesday, Mr. John Smith presiding, the Rev. C. E. Brooke, reporting upon his visit to the casual wards, said their sanitary condition was simply disgraceful. There was an open drain, from which there came a most filthy stench, and which should not be allowed to remain open. Mr. Stockbridge explained that the drain had been opened for the purpose of carrying out a scheme for perfecting the drainage.

YORK COUNTY HOSPITAL.—The report for 1890 (the 150th) shows that the financial position was highly satisfactory. Although £2792 10s. had been invested during the year there was still on Dec. 31st a balance in hand of £80 14s. 10d. The expenditure was well within the income, a result partly attributable to the smaller number of patients. During the year 1074 in-patients were treated and 8198 out-patients. A house-to-house collection produced £371 3s. 2d. Several improvements and alterations are contemplated in order to render the institution more efficient.

OLDHAM INFIRMARY.—The medical statistics of this institution for the past year record that 640 in-patients and 3904 out-patients had been treated during the year. Of the former 130 were medical, and 512 surgical cases. Of the latter, 276 were accidents, 364 patients had been discharged cured, 160 relieved, 33 left at their own request, and only 13 were incurable. The Convalescent Hospitals have been utilised for promoting the recovery of 33 patients, in each case with evident advantage. The balance sheet showed a deficiency of £781 2s. 11d, including the deficit of £566 2s. 5d., brought forward from the previous year.

THE FACTORIES BILL.—At the sitting of the Standing Committee on Trade, at the House of Commons, on Thursday, to consider the Factory and Workshops Bill, it was decided to include laundries in the provisions of the Act. The clause providing that all factories constructed after Jan. 1st, 1892, shall be provided on every floor with a means of escape in case of fire was met with an amendment by Sir Henry James, providing that spinning mills already existing should be provided with outside means of escape. The Home Secretary maintained that the machinery of the Bill was sufficient, and in the event of a building not having sufficient means of escape the proprietors would be prosecuted before a magistrate.

THE HOSPITAL FOR SICK CHILDREN.—The Duke of Fife, presiding on Wednesday at the dinner of the Hospital for Sick Children, Great Ormond-street, held at the Hôtel Métropole, said that in days gone by, when the sick poor were huddled together in the poor-houses, the position of the sick child was sad indeed. It was only forty years ago that this hospital was established, and to show the way in which it was appreciated he might mention that the average number of patients annually treated within its walls was now about 60,000. Of these, the in-patients numbered about 1060, and the average number of new out-patients was 6371; while the grand total of patients treated during the existence of the hospital was 520,000. He had now to appeal to the public for funds to enable them to complete the new wing, which would enable them to carry on the good work upon a more extended scale. Later in the evening subscriptions amounting to £4360 were announced.

FIRE AT THE NASHVILLE (U.S.A.) LUNATIC ASYLUM. A disastrous fire occurred last week at this Central Lunatic Asylum, and resulted in the death of six inmates; 400 lunatics were in the asylum. Only twenty-eight were confined in the wing where the fire broke out, and twenty-two of these were rescued, the remaining six perished in the flames. The inmates became beyond the control of the guards, and twenty-five escaped, but the most dangerous were in safety in another wing. The firemen succeeded in confining the conflagration to the wing in which the fire broke out.

NEWSVENDORS' BENEVOLENT AND PROVIDENT INSTITUTION.—The festival dinner of this institution took place last week at the Hôtel Métropole, Mr. G. Newnes, M.P., presiding. The chairman, in proposing "Prosperity to the Institution," referred to the great interest the late Charles Dickens took in the charity, and stated that they were met on the anniversary of the publication of the first daily newspaper in London, which took place on March 11th, 1702. He urged the claims of the institution upon their liberal support. During the evening the secretary announced donations and subscriptions amounting to about £800, which included 100 guineas from the chairman.

THE GORDON HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, LONDON.—During the past year 147 patients were admitted. The out-patients numbered 513, and the attendances were 2642. The committee in their annual report refer to the Committee of the House of Lords on the London Hospitals, and state that the figures given by the Charity Organisation Society were for the year 1887, and do not fairly represent the work of the hospital at the present time. They hope to have an opportunity of explaining this and other matters referred to in the evidence. The report of the medical committee shows satisfactory results of the work done, bearing in mind that nearly all the patients are admitted for operation. Financially a small balance remains in hand.

THE ALEXANDER MEMORIAL PRIZE.—This triennial prize, which is open for competition to executive officers of the Medical Staff, and consists of £50 and a gold medal of the value of £10, has just been awarded for the second time to Surgeon R. H. Firth, Medical Staff. The prize was founded as a memorial of the late Mr. Thomas Alexander, a former Director-General of the Army Medical Department; but, by a clerical error in an advertisement which appeared in our last issue, it was described as the "Alexandra" instead of the "Alexander Memorial." Essays for the next competition must be despatched so as to reach the Director-General on or before Dec. 31st, 1893, and the particulars as to the conditions of the competition will be found in the advertisement referred to. This information is also fully given in the annual "Reports of the Army Medical Department."

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at midnight on March 17th, 1891.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	236	57	..	51	2	346	442
North-Western Hospital	172	45	..	10	5	232	443
Western ,,	143	22	..	13	2	180	224
South-Western ,,	145	27	..	12	..	184	340
South-Eastern ,,	173	14	..	21	2*	210	482
Northern ,,	222	14	..	15	..	251	480
Totals	1091	179	—	122	11	1403	2391

SMALL-POX.—*Atlas* hospital ship, 2.

* Infant and mother.

MEDICAL NOTES IN PARLIAMENT.

The General Medical Council.

THE accounts for 1890 of the General Medical Council and its branch councils and of the Dental Registration Fund were presented to the House of Commons on Friday, the 13th inst., and were ordered to lie upon the table.

Water-supply from the Thames.

In the House of Commons on Monday, March 16th, Mr. Leng directed attention to the condition of the London water-supply as represented in Professor Frankland's report, in respect of the organic impurity found in the various samples.—Mr. Ritchie: My attention has been drawn to the report to which the hon. member alludes. With regard to the analysis of the water supplied by the Grand Junction Water Company on Feb. 5th, I recently stated the facts very fully in reply to a question of the hon. member for the Knutsford Division of Cheshire. As to the analysis of the water supplied at a later date in the same month by other metropolitan water companies, I have no doubt that the abnormal amount of vegetable matter, although much less than was the case with the water from the Grand Junction Water Company on Feb. 5th, was occasioned by similar causes. Dr. Frankland informs me that the exceptionally impure condition of the river-derived waters supplied to the metropolis in February has now passed away, and that these waters have apparently returned to a condition approaching the normal at this season. I have communicated with Dr. Frankland with regard to his statements as to the existence of microbes. He states that the number was not large for filtered river water, and that, as no pathogenic organism was observed among the microbes, their presence does not afford any ground for alarm.

The Factories and Workshops Bill.

Many important amendments to the Factories and Workshops Bill have been drafted by members of the House of Commons. Mr. Hoyle has prepared several with reference to the sanitary clauses of the Bill. He has prepared a new clause to the effect that it shall be the duty of every inspector to send to the proprietors of factories and workshops in his district full information as to new methods of ventilating and improving the sanitary condition of factories and workshops which he has met with in his district. Another clause prepared by Mr. Hoyle prescribes that the inspector shall send round reports of all accidents and injuries to life or limb, with details of the machinery and appliances which have caused them. Sir Henry James has drawn up a most formidable list of amendments. A few of them deal with the sanitary clauses; others relate to holidays. A large group have reference to the work of the inspectors. Sir Henry James proposes that, where an inspector is obstructed in the execution of his duties, the person obstructing him shall be liable to a fine not less than one nor exceeding ten pounds sterling. In a new clause he proposes that where it appears to an inspector that dust is generated in any factory and is inhaled by the workers to an injurious extent, and that such inhalation could be prevented by the use of mechanical or other means, he shall serve on the occupier of the factory a requirement that means be provided within a reasonable time. Mr. Sydney Buxton has given notice of an amendment prohibiting the employment of children under twelve years of age. He excepts those children for whom special provision is made under the Prevention of Cruelty to Children Act, 1889. In relation to this Bill we may add that Mr. Matthews has intimated his hope that he may be able to effect some compromise with regard to the abolition of the office of certifying factory surgeons.

THE METROPOLITAN HOSPITALS INQUIRY.

THE Select Committee of the House of Lords on the Metropolitan Hospitals resumed its inquiry on Monday. Earl Sandhurst presided.

Greenwich Seamen's Hospital.

Mr. Michelli, secretary of the Greenwich Hospital for four years, said that for the last thirteen years he had been connected with hospitals. This hospital was for seamen, and was managed by the Seamen's Hospital Society. They admitted seamen suffering from all diseases, and, in cases of urgency, other people. Their main hospital was at Greenwich, with 225 beds. There was a branch hospital with fourteen beds, and dispensaries at the London Docks and Gravesend. There was an income of £3600 from land and funded property—£700 of that sum coming from land. His salary was £400 a year, with a house, and he had commissions which averaged between £40 and £50 a year. They were governed by their own Acts of Parliament. He thought their method of checking small expenditure was good, but really the chief responsibility lay with him. The working number of beds was 197, and they admitted all diseases, except small-pox and typhus. Their legacies last year amounted to £7094, which was an exceptionally good year, the average being £1700 for ten years. The total receipts last year were £18,000, and the ordinary expenditure £12,765. They had a professional auditor. There ought to be a uniformity of hospital accounts all over the country. He thought it possible to have a central body to audit all the accounts. The expenditure should be put under heads, so as to find out the cost of foods and drugs. He thought it a pity that small hospitals should be started under the windows of large hospitals, and there should be a licensing body to examine and report as to the necessity for any new hospital. He did not like to see the general hospitals increased in size; he would rather see hospital extension take the form of erection of hospitals outside London. Two-thirds of the patients might with safety be removed to the country, only sufficient patients being kept in London for instruction purposes. The licensing body might be elective and in connexion with the Charity Commissioners. It should audit accounts and inspect the hospitals, but have no control. It might also license the new hospitals.—By Lord Kimberley: Inspection did not necessarily mean control, because the inspecting bodies in the Colonies and in Dublin did not exercise control.—Might not the general body of London hospitals appoint an auditor without bringing in public control? I think there is such a rivalry that it would be difficult.—You propose to invest your funds in the Charity Commissioners. Do you think the public have confidence in the Charity Commissioners? I think they have.—Have you found them an agreeable body to deal with? Yes.—Do you get an answer to your letters in a reasonable time, or have you to wait for six months? In a reasonable time.—By Lord Thring: In regard to this licensing body, why should you prevent any man from doing anything which is not injurious to the State? Well, if there was this licensing body, you might have a hospital at Camberwell instead of a hospital at Paddington, where it was not wanted.—By the Chairman: The patients were admitted by the principal medical officer. The food was supplied by open tender through advertisement. There were not many complaints as to food. When there was any complaint, the food was brought to him, and he along with the medical officer decided whether the complaint was well founded. The steward and matron had a salary of £100 a year each. There was a staff of thirty. Deducting meal hours, a sister or probationer was on duty for ten hours forty minutes. Night nurses were on duty eleven hours fifty-four minutes. The nurses did no menial work, and had a very easy time during the day. They had no students, but the principal medical officer took a certain number of students. There was a Samaritan Fund, out of which they relieved the patients who were incapable of going back to sea. There was a principal medical officer (£350 and a house), a house physician (£70), and a house surgeon (£50). The two latter were nominally appointed for a year, but usually retained office much longer. He was the head of the institution, but he had no power to suspend a medical officer for a grave irregularity. In such a case he could call the committee together within twenty-four hours. As a matter of fact, such an emergency had never occurred. During the last year they had had 8552 out-patients.—By the Chairman: It was a pity that at nearly all the London hospitals out-patients were kept standing in the streets, sometimes in the wet, until the doors opened.

The Lock Hospital.

Mr. Shillitoe, surgeon of the Lock Hospital, examined by Lord Cathcart, said he had some statistics as to venereal disease, but they were very misleading. It was not possible to give statistics as to the prevalence of the disease, because when people got the disease surreptitiously they did not like to publish the fact. The hospital accommodation was not nearly sufficient. It was a horrible thing that the women should be allowed to leave hospital uncured. He could not speak in strong enough terms on such a subject. The disease prevailed all over the country to a much larger extent than was supposed. The type of the disease was very much the same as it had been for many years. It was quite as virulent as it used to be. There were accessions in the strength of the disease occasionally, and he noticed that, especially after the Paris Exhibition, that was through importation. The aggravated forms of disease were not so common, but that was through the spread of education. The mercurial treatment was the only one of any avail. The chief objection to the female out-patient system was that they only got partially cured and then continued their evil courses. The same objection applied to female in-patients, who left before they were quite cured.—But public opinion will not let you keep the women in? I hope that public opinion will veer. I hope to see the day when we shall be able to keep the women till cured. I think the present law is a great misfortune to the nation at large.—Were you always in favour of the Contagious Diseases Acts? Yes; and my opinion has become intensified since my connexion with the Lock Hospital.—Do you find that the women leave the hospital uncured before fairs, or, say, the Derby day? Yes, that is the case.—Examination continued: He had known many cases of surgeons and nurses taking the disease. He had known cases where infection was communicated by towels. Even in travelling people might meet the microbes of the disease. The public were not sufficiently alive to the danger they ran from this terrible disease.

Mr. A. C. Coote, secretary of the Lock Hospital, recalled, said that if the present appeal for assistance was not responded to adequately the hospital would have to be shut up, or another appeal issued. They were in debt £3000 to their tradesmen, but, of 731 cases treated in the hospital, they only lost sight of 177 cases. They were able to follow many of the women after leaving the asylum attached to their hospital, and the results were most encouraging. They had 1200 men out-patients and 150 women. They always made inquiry as to the circumstances of patients before giving advice.

Mr. Shillitoe, recalled, examined by Lord Cathcart, said that a great deal of quackery existed in the treatment of this disease. In the beginning of the disease much of the treatment was by chemists.

The committee then adjourned.

Their lordships met again on Thursday.

Brompton Consumption Hospital.

Mrs. Taylor said she was formerly matron of the Brompton Consumption Hospital. The staff consisted of about seventy. They sent out many nurses to private cases. It was not the usual thing to take out nurses from the wards and send them to private cases. Quite half of the private nurses came to them adequately trained, and the nurses they themselves trained had three months in a general hospital. They had voluntary helpers, but no unpaid probationers. In her nine years' experience at Brompton she had never heard a complaint from a nurse as to the food. If there had been any complaint she would have been sure to hear of the matter. The resident medical officer had two courses of lectures in the course of the year. She also held classes, and found it better to keep the classes down to four or six at a time.

King's College Hospital.

Dr. Wace, D.D., chairman of the committee of management of King's College Hospital, said they had practically no endowments. Last year their receipts were £11,288, and their expenditure £17,126. This showed a large deficit. The deficit was met by some legacies and the sale of some stock. This was the largest deficit they had had for many years. They had kept the hospital constantly before the public, and they found that the more they appealed the more money they got. Five years ago they had to close two wards and reduce the number of beds, but since that time they had been able to reopen the wards and fill all the beds. They had 220 beds, and 215 beds were occupied last week. More patients came to the hospital than they could accommodate. Their deficit did not cause them great anxiety, because they could always catch it up. They had a large body of friends who were ready to respond to any special appeal. The number of in-patients admitted during the year was 2331, and this added to the number remaining in the hospital made the total number treated 2518. The out-patients numbered 9650, but there was also a casual department, where 10,337 persons were treated.

In addition, 607 poor women were treated during confinement. Their nurses had all to attend the services of the Church of England. They admitted all kinds of disease except small-pox, with this reservation: that there should not be more than ten cases of infectious disease at one time.—By Lord Cathcart: Do you think it fair, in a hospital which takes money from all religious denominations, to make a religious test in regard to the nurses? Perfectly fair, if we make the bargain beforehand.—Do you think it judicious? We find it works well, and there has never been any objection made to it.—By Lord Clifford: We thought it better that there should be some hospitals managed on the principle of religious tests for the nurses. They found it advantageous for the general discipline and good working of the whole institution that there should be this test.

Sister Munk, matron of the hospital and lady superintendent of the nursing department of King's College Hospital, said they had nurses for private work, but this did not at all interfere with the regular staff in the wards. Their nurses were probationers for two years, and took their certificates at the end of three years. If the nurses did private work they received a commission on their earnings; the maximum was 15 per cent. The nurses were on the National Pension Fund. No nurse had left the hospital except to fill a better position. She always dined with the nurses, as did also the sisters. She would therefore be able to know if there was any cause of complaint, but she had not known of any complaints as to food. She was opposed to any British nurses' registration society, as every hospital had its own registry of trained nurses.

Dr. Curnow, dean of King's College Medical School, physician to the hospital, and professor of anatomy, said that since 1864 he had been connected with King's College with the exception of one year. He proceeded to give evidence regarding the arrangements in the out-patients' department, dividing the cases for this purpose into casual patients and out-patients proper. It was only very special cases which continued under treatment for over three weeks. The arrangements for the treatment of casual patients were detailed, and the duties of the resident medical officers submitted to their lordships. The visiting staff were compelled to obtain the membership of the Royal College of Physicians or a Fellowship of the Royal College of Surgeons within a year of their appointment to the staff. This was on account of the disciplinary powers exercised by these bodies in regard to questions of etiquette. The examination of the Royal College of Surgeons was acknowledged to be the best surgical examination in the kingdom, with almost no exceptions. He might say that the degree of Master of Surgery of the University of London was quite as high as that of the Royal College of Physicians, the examination being quite different, and separate from that for the M.B. degree, an arrangement which did not hold in the case of other Universities. If the Universities exercised such disciplinary powers over their graduates he saw no reason why a man belonging to those Universities should not become a member of the hospital staff.—By Lord Zouche: They had standing rules in the hospital whereby ten cases of infectious diseases were admitted, so that the students in King's College had a better chance of seeing such diseases than students had in any other hospital in London, King's College Hospital being in quite an exceptional position in regard to these diseases.—By Lord Spencer: These patients were in the same wards as the ordinary patients, unless there was anything special in their case. There were two isolation wards in the hospital. In regard to the utilisation of the Metropolitan Asylum Boards hospitals for teaching purposes, Dr. Curnow said it would be extremely impracticable for a teacher of one of the general hospitals to take a class to an Asylums Board hospital where the management was under a different superintendent, and where the patients were under a different physician, and over which hospital the teacher had no control.—By Lord Monkswell: The question of special hospitals depended upon the class of the hospital. Hospitals like the Brompton Hospital for Consumption were essential because the cases they treated were extremely numerous. Then there were hospitals for incurables and those which, like Moorfields, were founded before ophthalmic departments were common in general hospitals. In general hospitals now they had separate departments for the eye, ear, nose, throat, skin, &c., and he saw no longer any necessity for special hospitals dealing with these special diseases, but they could not do away with an old institution. Most of the recent special hospitals certainly were useless. It was simply parcelling the body out into pieces, and treating the one part as if it had nothing to do with the other. Regarding hospitals for diseases of children, also, it simply amounted to a question as to how the accommodation could best be distributed.—By the Chairman: The medical school was not an independent school. All accounts were paid in to the secretary of King's College. Since 1883, when he was appointed dean, the receipts averaged from £2500 to £3500, the highest total receipts being nearly £3700. That meant an average of thirty or forty students entering for the year. During the last year or two the numbers had been increasing. The medical men had no control over the institution at all. They had a medical committee which recommended to the Council of the College candidates for the appointments.—Lord Spencer: Your school differs from other schools in this, that there is a large element of lay management, whereas in other hospitals it is almost entirely managed by the hospital staff.—The Witness: Ours is the medical department of a college, managed by the council of a college, but other medical schools are simply associations made by hospital surgeons for teaching purposes. I prefer it infinitely to the private system.—Lord Spencer: Would you like to develop this system still further, and have a large board for the management of medical schools in London?—The Witness: I think it would be most disastrous. The chief objection I should have is that all scientific studies are so practical that I could not understand how a teacher could teach practical science to more than 100 students at once. The teaching would be left mainly in the hands of inferiors or assistant demonstrators. It is not so much to the lecture system that objection can be urged as that the practical work would be neglected. I am very strongly of opinion that there is a great waste of teaching power in science subjects in London, which could be improved by combination. In fact, the great advantage of King's College and University College is that pupils can be sent to study, for instance, physical science in one of the finest physical laboratories in the kingdom. It is almost impossible for a medical department to keep up these things unless it is extremely rich.

The Committee then adjourned until after the Easter recess.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALLEN, W. C., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Willington Urban Sanitary District.

ARMSTRONG, JAMES, L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Workhouse, and District Medical Officer to the Brampton Union, vice Wotherspoon, deceased.

BERRY, EDMUND, L.R.C.P. Irel., L.F.P.S. Glasg., has been reappointed Medical Officer of Health, Leyland.

BERRY, H. P., M.B. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Grantham Urban District.

BLACK, ALEX., M.B., F.R.C.P. Edin., has been appointed Surgeon to the Eye, Ear, and Throat Infirmary, Edinburgh, vice Ross, resigned.

CHAMBERS, E., M.B. Aberd., M.R.C.S., has been appointed District Medical Officer and Public Vaccinator, Holborn Union.

CHEESEWRIGHT, J. F., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Greasborough Urban Sanitary District.

CLARKE, A., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Street Urban Sanitary District of the Wells Union.

CLARK, W. F., L.R.C.P., L.R.C.S., has been reappointed Medical Officer of Health for Cheshunt.

CLIBBORN, WM., B.A., M.D. Dub., L.R.C.S. Irel., has been appointed Medical Officer of Health for the Borough of Bridport; also Certifying Surgeon under the Factory Act for Bridport and the surrounding districts.

COLLINS, J. T., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Roscommon District of the Ballinasloe Union.

CONOLLY, C. H., M.R.C.S., has been reappointed Medical Officer for the Wood Green Urban Sanitary District.

CORNER, HARRY, M.B., L.R.C.P. Lond., M.R.C.S., has been appointed Second Assistant Medical Officer at Bethlem Royal Hospital.

CROSSFIELD, A. K., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer for the Dittisham District of the Totnes Union.

DE LA HUNT, J. J., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Galway District of the Ballinasloe Union.

EADY, G. J., M.D. Brussels, M.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Kilburn District of the Hampstead Union, vice Hill, resigned.

EMERSON, D. N. B., B.A., M.B., B.Ch., B.A.O. Dub., has been appointed Senior Resident Medical Officer to the Victoria Dock District Dispensary, vice C. H. Burtchaell, M.B., resigned.

EVANS, C. H., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. John's Hospital for Diseases of the Skin, vice G. W. Damman.

FAICHNIE, FRED., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the St. Marylebone Infirmary, Notting-hill, vice Berneau, resigned.

GARTLEY, T. A., L.D.S.R.C.S. Eng., has been appointed Honorary Dental Surgeon to the French Benevolent Society.

GILBERT, H. P., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Twelfth District of the Wisbech Union.

GRANT, OGILVIE, M.B., D.P.H. R.C.P. Edin., has been appointed County Medical Officer for Inverness-shire.

GRATTE, C. BROOKE, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Inspector of Seamen for the Board of Trade, Newport, Monmouthshire.

HALL, GEORGE, M.D. Edin., has been appointed District Medical Officer and Public Vaccinator for the Witle District of the Hambledon Union.

HAMILTON, A. A., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for Crowle, Thorne Union.

HARRIS, J. H., M.R.C.S., has been reappointed Medical Officer for the Ugborough District of the Totnes Union.

HARTFORD, H. W., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Workhouse of the Christchurch Union.

HICKENS, F., M.D. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Redruth Union, vice Carlyon, resigned.

HODSON, THOS., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Sixth District of the Chelmsford Union, vice Winstanley, deceased.

HUIE, H. G., M.B., C.M. Edin., has been appointed Resident Physician of the Royal Edinburgh Hospital.

JOHNSON, H. S., L.R.C.P. Irel., L.F.P.S. Glasg., has been reappointed Medical Officer of Health for the Totnes Rural Sanitary District.

KEMPE, ARTHUR W., M.D. Brux., M.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health to the Exeter Port Sanitary Authority.

LEES, E. LEONARD, M.D., C.M., M.R.C.S., has been appointed Medical Registrar to the Bristol Hospital for Sick Children and Women.

LUCAS, HERBERT, M.R.C.S., has been reappointed Medical Officer of Health to the Huntingdon Town Council.

LUND, T., M.B., B.S. Durh., has been appointed Resident Medical Officer and Secretary to the Royal Victoria Hospital, Bournemouth.

MACKAY, P. B., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Surgeon to the Doncaster Infirmary, vice Robinson, resigned.

MACLEOD, JOHN NORMAN, M.A., M.B., C.M. Glasg., has been appointed House Surgeon to the Royal Infirmary, Dundee.

MCOSCAR, JOHN, M.R.C.S., has been appointed Medical Officer for the Chinnor District of the Wycombe Union.

MALCOLM, W. A., M.B., C.M., has been appointed Casualty Officer, Registrar, and Assistant Anæsthetist to the Great Northern Central Hospital.

NEVIN, ROBERT J., M.B., C.M. Glasg., has been appointed Medical Officer and Public Vaccinator for the West Auckland District of the Auckland Union; also Surgeon to the West Auckland, Tindale, and St. Helens Collieries.

POWELL, L. L., L.R.C.P. Edin., M.R.C.S., has been appointed a District Medical Officer for the Melton Mowbray Union.

PURVES, A. S., M.D. Edin., has been appointed Medical Officer for the Lesbury District of the Alnwick Union.

PRESTON, H. T., M.D. Aberd., M.R.C.S., has been reappointed Medical Officer for the Wolverley District of the Kidderminster Union.

RAWLINGS, H. E., L.R.C.P. Irel., M.R.C.S., has been appointed Medical Officer of Health for the Rural Sanitary District of the Gower Union, vice Jones.

ROSS, JAS. M., M.B., C.M. Edin., has been appointed County Medical Officer for Dumfriesshire.

RUDOLF, R. D., M.B., C.M. Edin., has been appointed Resident Physician of the Royal Edinburgh Hospital.

SHARMAN, M., M.B. Glasg., M.R.C.S., has been appointed Medical Officer for the Rickmansworth District of the Watford Union.

SHORE, HERBT. G., M.R.C.S., has been appointed Medical Officer for the Cropredy District of the Banbury Union, vice Hodgson, resigned.

SMITH, K. R., M.D. Lond., M.R.C.S., has been reappointed Medical Officer of the Harbtonford and Halwell Districts of the Totnes Union.

STOCKRIDGE, T. G., M.D. McGill, Montreal, M.C.P.S. Ont., M.R.C.S., has been appointed District Medical Officer and Public Vaccinator, Holborn Union.

SYMINGTON, W. D., M.D. Edin., has been appointed Medical Officer of Health for the Brampton Union Rural Sanitary District, vice Wotherspoon, deceased.

TEMPLE, T. C., M.R.C.S., has been appointed Medical Officer for Shillington, Gravenhurst, and Haynes, Ampthill Union.

UBSDELL, H., M.R.C.S., has been reappointed Medical Officer for the Staverton and Rattery District of the Totnes Union.

WHITAKER, G. H., L.R.C.P., L.R.C.S. Edin., has been appointed Certifying Surgeon of Factories and Workshops for the Horwich District, Bolton-le-Moors, vice Emmett.

WILLAN, G. T., M.R.C.S., has been appointed a District Medical Officer of the Melton Mowbray Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BETHLEM HOSPITAL.—Two Resident Clinical Assistants.

BRADFORD INFIRMARY AND DISPENSARY.—Dispensary Surgeon. Salary £100 per annum, with board.

BURTON-ON-TRENT FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Junior Medical Officer. (Apply to the Secretary, Shobnall-road, Burton-on-Trent.)

BOROUGH LUNATIC ASYLUM, Portsmouth.—Clinical Assistant for six months. Board, rooms, lodging, washing, and attendance provided.

BRIDGWATER INFIRMARY.—House Surgeon Salary £80 per annum.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—Assistant Surgeon.

COUNTIES OF MIDLOTHIAN, WEST LOTHIAN, AND PEEBLES, AND DISTRICTS WITHIN THE SAME.—Medical Officer. Salary £600, besides travelling expenses. (Apply to the County Clerk, County Buildings, Edinburgh.)

CHARING-CROSS HOSPITAL. — Surgical Registrar. Salary £40 per annum.

COUNTY ASYLUM, Shrewsbury. — Junior Assistant Medical Officer. Salary £100 per annum, and £8 in lieu of beer, with board, lodging, and washing.

CHARING-CROSS HOSPITAL MEDICAL SCHOOL.—Demonstratorship of Physiology. Honorarium £100 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Resident Medical Officer for one year. Salary £80 per annum, with board and residence.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officers. Salary commences at £100 a year, with prospect of an increase of £25 at the end of the first year and £25 at the end of the second, with further increase according to promotion, together with furnished apartments, board, washing, and attendance.

DEACONESSES' INSTITUTION AND HOSPITAL, Tottenham.—Resident House Surgeon for one year. Salary £90 per annum, with board and residence.

DISTRICT INFIRMARY, Ashton-under-Lyne.—House Surgeon. Salary £90 per annum, with board and lodging.

EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Obstetric Physician to Out-patients.

HOSPITAL, King's Lynn.—House Surgeon and Secretary. Salary £80 per annum, rising to £100, with board, lodging, and washing in the Hospital.

HOSPITAL FOR WOMEN (LONDON SCHOOL OF GYNÆCOLOGY), Soho-square, W.—Clinical Assistants.

JAFFRAY SUBURBAN BRANCH OF THE GENERAL HOSPITAL, Gravelly-hill, near Birmingham.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing.

KENT COUNTY ASYLUM, Chartham, near Canterbury.—Junior Assistant Medical Officer. Salary £125 per annum, with furnished apartments, board, and attendance. (Apply to Mr. Allen Fielding, Solicitor, Canterbury.)

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary £80 per annum, with apartments, board, and attendance. (Apply to the Secretary, Leith Offices, 24, Moorfields, Liverpool.)

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician for one year. Salary at the rate of £60 per annum for the first six months, and at the rate of £70 per annum for the second six months.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Surgeon for one year. Salary at the rate of £60 per annum for the first six months, and at the rate of £70 per annum for the second six months

METROPOLITAN HOSPITAL, Kingland-road, N.E.—Assistant House Surgeon for six months.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £120 a year,

ROYAL SOUTH LONDON DISPENSARY.—Honorary Surgeon.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Resident Medical Officer. Salary £70 per annum, with board and residence.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Anæsthetist and Registrar for one year, honorarium of 20 guineas being voted at the end of that term.

ROYAL BATH HOSPITAL AND RAWSON CONVALESCENT HOME, Harrogate.—Resident Secretary and Dispenser. Salary £80 per annum, with board, lodging, and washing.

ST. MARY'S HOSPITAL, Paddington, W.—Surgeon in charge of Out-patients for five years.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, W.—Resident Medical Officer. Salary £105 per annum, with furnished apartments, attendance, coal, and gas.

STOCKPORT INFIRMARY.—Assistant to the House Surgeon for six months. Board and residence.

WINDSOR ROYAL INFIRMARY.—House Surgeon. Salary £100, with apartments, but no board.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM.—Third Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

AVARNE.—On March 15th, at Crossfield House, Blaenavon, Mon., the wife of Arthur Blair Avarne, M.R.C.S., L.S.A., of a son.

CALDWELL.—On March 14th, at Brixton, the wife of W. T. D. Caldwell, M.D., of a daughter.

CRITCHETT.—On March 16th, at 21, Harley-street, W., the wife of G. Anderson Critchett, of a daughter.

DUKE.—On March 9th, at Locksley, St. Leonards-on-Sea, the wife of Edward Duke, M.R.C.S., of a daughter.

EMMETT.—On March 12th, at Woodville, Kingston-road, Portsmouth, the wife of Richard Emmett, M.R.C.S., L.R.C.P. Lond., of a daughter.

HEARNDEN.—On March 12th, at Rose Cottage, Leatherhead, the wife of Walter C. Hearnden, M.R.C.S., of a son.

JONES.—On March 13th, at Southgate, Eckington, the wife of G. H. West Jones, of a daughter.

SYMPSON.—On March 14th, at 3, James-street, Lincoln, the wife of E. Mansel Sympson, M.A., M.D., B.C. Cantab., M.R.C.S., of a son.

TROUP.—On March 10th, at Pembroke-square, Kensington, the wife of Surgeon-Major R. W. Troup, Army Medical Staff (retired), of a son.

MARRIAGES.

CLARKE—HECTOR.—On March 12th, at St. Peter's, Morley, by the Rev. Vavasour F. Hammond, M.A., Vicar of Drighlington, assisted by the Rev. G. Pedley, Curate of St. Peter's, Morley, Arthur Clarke, B.A., L.R.C.P. Lond., M.R.C.S. Eng., of Street, Somerset, to Georgina, fourth daughter of the late Alexander Hector, of Montrose, Forfarshire, N.B.

HODGKINSON—WHITNALL.—On March 5th, at St. Philip's Church, Alderley Edge, Alexander Hodgkinson, M.B., C.M., B.Sc., of Disley and Manchester, to Eliza Frances Whitnall, of Southport.

MANLEY—DUNDAS.—On March 12th, at St. Simon's, West Kensington Park, Herbert Manley, M.A., M.B. Cantab., only son of John Manley, of West Bromwich, to Alice C. M. Dundas, eldest daughter of the late Robert Thomas Dundas, Commander in the P. and O. Company's service.

MARTIN—CROSS. — On March 12th, at St. Stephen's, Hampstead, Charles James Martin, M.B., B.Sc., to Edith Harriett, second daughter of the late Alfred Cross, of Kilmarth, Hastings.

RODEN—JOPP.—On March 4th, at St. Andrew's Church, Aberdeen, Percy Austin Roden, M.B., second son of S. S. Roden, M.D., Droitwich, Worcestershire, to Minnie Abercrombie, youngest daughter of Keith Jopp, M.D., Aberdeen.

TAYLOR—ABBOTT.—On March 3rd, at St. Paul's, Onslow-square, Henry Herbert Taylor, F.R.C.S., of Brunswick-place, Brighton, to Florence Marie, daughter of the late William Abbott, of Tasmania.

DEATHS.

BULL.—On March 17th, suddenly, William Bull, F.R.C.S., of Shepherd's bush-road, W., aged 41.

CARTER.—On March 14th, Albert Carter, M.D., of Bexhill, Sussex.

GORDON.—On March 13th, at Muir House, Juniper-green, Midlothian, Patrick Gordon, M.D.

SYMES.—On March 7th, at the County Asylum, Rainhill, George Dickinson Symes, Assistant Medical Officer, second son of J. Gustavus Symes, of Southfield, Weymouth, late Medical Superintendent of the Dorset County Asylums, aged 30. Greatly loved; deeply lamented. Australian and Indian papers please copy.

ERRATUM.—We regret that in our obituary column last week a serious error was suffered to pass uncorrected. The paragraph headed "Hawkins" was intended to announce the death of Mr. Frank Sydney Hawkins, not of Mr. Walter R. T. Hawkins, who we are glad to know is still in the possession of his wonted health.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 19th, 1891.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Mar. 13	29·77	E.	37	35	81	47	31	..	Hazy
,, 14	29·83	N.E.	41	38	61	46	37	·02	Overcast
,, 15	29·72	S.W.	40	37	72	46	35	·02	Cloudy
,, 16	29·37	S.W.	40	38	63	47	38	·21	Overcast
,, 17	29·57	N.E.	43	42	53	48	40	·01	Raining
,, 18	29·80	N.E.	44	43	53	49	42	·12	Overcast
,, 19	29·85	N.E.	41	38	59	46	37	..	Cloudy

Medical Diary for the ensuing Week.

Monday, March 23.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.
SOCIETY OF ARTS.—8 P.M. Prof. R. Meldola: Photographic Chemistry. (Cantor Lecture.)
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. B. Ward Richardson: Peroxide of Hydrogen, and Various Methods for its Administration and Use.—Mr. Alban Doran: Fibro-Sarcoma, or Desmoid Growth of the Abdominal Wall.

Tuesday, March 24.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.
SOCIETY OF ARTS.—8 P.M. Mr. Clement Heaton: Uses of Cloisonné for Decoration in Ancient and Modern Times.
THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Mr. A. Wynter Blyth: Sanitary Laws and Regulations governing the Metropolis.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Mr. C. B. Lockwood: The Treatment of Strangulated Hernia when the Intestine is Gangrenous or Ulcerated.—Mr. W. Arbuthnot Lane: Chronic Traumatic Arthritis.

Wednesday, March 25.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.
HUNTERIAN SOCIETY.—8 P.M. Dr. Galabin: Modern Methods of Cæsarean Section.

Thursday, March 26.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.
BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Specimens of Uterine Polypi will be shown by Dr. Edis. Dr. Robt. Bell: The Treatment of Chronic Disease of the Uterine Adnexa.

Friday, March 27.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, March 28.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher"*

We cannot undertake to return MSS. not used.

DIARRHŒA DUE TO BALANTIDII.

J. S.—THE Balantidium coli is an infusorium which was discovered by Malmsten of Stockholm as long ago as 1856, and has since been studied by Leuckardt and others, being found frequently in the cæcum and colon of the pig, and occasionally in the human colon, in which case it is, sometimes at all events, associated with obstinate diarrhœa and intestinal ulcers. It is probable that it may be conveyed from the pig to the human subject in food. Little is known about the treatment, and no examples of this parasite seem to have been found in the human subject in this country, or in France or Germany. In Sweden and Russia, however, it is probably not a very uncommon cause of diarrhœa. A case is reported by a Russian medical woman in which a female patient of seventy years of age, who suffered from chronic interstitial nephritis, was attacked by profuse diarrhœa, there being as many as twenty stools daily containing balantidii. Enemata of salicylic acid and of naphthalin and also of salol were tried, the last being given in quantities of a quarter of an ounce twice a day; all these, however, without effect. When the salol enema was given three times a day, and increased to a third of an ounce each time, the parasites disappeared. They returned, though in diminished numbers, as soon as the salol enemata were left off.

Inexpertus should refer to Whitaker's Almanack, or other authority on the point.

"RECIPROCITY BETWEEN MEDICAL PRACTITIONERS AND CHEMISTS."

To the Editors of THE LANCET.

SIRS,—I beg to support your correspondent, Mr. G. D. Mackintosh, whose letter on the above subject appeared in your issue of the 7th inst., in his denunciation of dispensing by general practitioners. There can be no doubt that this stupid practice is at the root of the custom of prescribing by chemists; and is not this latter from many points of view an unmitigated evil? And certainly dispensing is degrading to the profession itself, and is, moreover, exceedingly irksome and inconvenient. The dispensing every day at fixed hours comes in the way of the visiting, the midwifery, and even of the desirable and necessary rest. People, who may be very ill, have often to wait for hours before the busy practitioner can be back at his surgery to make up the medicine; and, in order to be at his surgery as soon as possible, he has to hurry over his visits; hence imperfect diagnosis and meagre advice. He has also to subject himself to all the discomforts and risks of violent exertion in hastening about, and of postponed and irregular meals; has to shorten his consultations by doing the manual work of making up a bottle of physic, for which he has time only to slop in hurriedly two or three things, probably not infrequently incompatibles; has to deprive himself of much well-earned leisure, of time for his hobby ("Every sensible man who wishes to preserve his soul and his senses has his hobby"), for general and medical reading, for study of his obscure cases, and for doing more in thought and in deed for some of his patients who may need all the deliberate scientific attention possible. Furthermore, the custom involves the habit of visiting and consulting merely to get to know as quickly as possible for what crudely to prescribe; and hence there is much less true, careful scientific observation and good to humanity than might be. And do not patients now go to a "doctor" to get physic, and expect to get physic which must be in nothing less than a bottle, and as cheap as possible? No advice or attention is recognised minus physic. Hence grows the enormous popular evil of everlasting drugging and physic-taking, as evinced in the vast extent of the patent medicine trade. Your correspondent's

remark is undeniable—that the present general practitioner is considered by the public little more than a mere tradesman and a shopkeeper; so the cheapest doctor is sought for, and he is the one who does the "roaring business." To eliminate this popular delusion; to raise the tone of a practitioner's status, habits, and vocation; to rid himself of an inconvenient and fatiguing "extra" to his legitimate calling—is surely not a very difficult matter. Give the dispensing over to the chemists, by reciprocal arrangement or otherwise, as seems most convenient. But to give up the present malpractice only needs united action on the part of all truly professional men, and then even general boycotting, if necessary, of all private practitioners who persist in underbidding their brethren by keeping up the shop system at cheap charges. Could not your correspondent or some other supporter read a practical paper on the subject at the next British Medical Association meeting, when the matter could be discussed, proposals made, general universal action taken, and a special committee and subassociation formed, if necessary? For a practitioner to decline to join such an effort, would it not seem suspicious that he intended to keep out so as to trade in drugs and water, and, like the dog in the manger, rob of their legitimate and whole business well-trained, well-educated men, infinitely better able to dispense neatly, properly, safely, and effectively than the best dispensing medical practitioner who ever "fagged" through his dispensing? Or is he afraid of a chemist's criticism of his prescriptions?

I am, Sirs, yours truly,

York, March 10th, 1891. SICK OF DISPENSING.

HERPES ZOSTER.

To the Editors of THE LANCET.

SIRS,—It is an interesting fact that one case of herpes zoster is generally the herald of others, but those attacked need not necessarily live in the same immediate locality, nor yet have been in contact with each other. This tends to prove that the neuritis originates in some common cause, either atmospheric or otherwise. The disease, as far as my experience goes, is not at all infectious, although some cases have been reported in which infection appears to have been at work in their propagation. The following cases which recently occurred in my practice, none of them nearer than a mile of each other, bear out these statements. On Dec. 6th, T. H——, male, aged forty-five, applied at my surgery with a well-marked crop of herpes following the course of an intercostal nerve. On Dec. 16th, R. M——, male, aged sixty, sent for me. He complained of intense pain in his gluteal region and lower part of the abdomen of the left side. On examination I found him suffering from herpes, the vesicles in this case being over the distribution of the gluteal branch of the external musculo-cutaneous and middle musculo-cutaneous nerves. On Jan. 10th, N. C——, female, aged ten, appeared with the herpetic eruption on one side of her face, mapping out the course of the facial nerve. Jan. 14th: W. B——, male, aged forty-seven. Herpes over the course of an intercostal nerve.

All these cases did well under the treatment except the second, in which the neuralgia has not yet disappeared, and at one time was so severe as to make his friends apprehensive of his sanity.

I remain, Sirs, your obedient servant,

GEO. TANDY WILKINSON, L.R.C.S.I., &c.

Cloughton, Scarboro', March 16th, 1891.

"A NEW METHOD OF NASAL IRRIGATION."

To the Editors of THE LANCET.

SIRS,—Without doubt the profession is indebted to Dr. Ball for ringing under notice the simple and ingenious method of nasal irrigation devised by Dr. Pins of Vienna. To obtain its maximum of usefulness there are three points in which the instrument and its mode of use are capable of improvement:—1. The nozzle should be oval, so as to fit the nostril without undue distension. 2. It should be made of hard rubber and perforated in five or six places, as is the case with the nasal syringe which goes by my name; for by this means a combination of a coarse spray and of a full stream is obtained; and in this connexion it has to be noted that whatever method of irrigation is employed the fluid is bound to return by the opposite nostril, provided the nostril of entrance is thoroughly blocked by the nozzle of the irrigator. 3. The nozzle should not be inserted up the nostril, as in the engraved figure, but *along the floor;* for while a stream in the former direction is not necessary for efficient nasal irrigation, it is very liable to produce headache and other symptoms of discomfort.

I am, Sirs, yours faithfully,

Weymouth-street, W., March 16th, 1891. LENNOX BROWNE.

THE SURGICAL TREATMENT OF PHTHISICAL CAVITIES.

To the Editors of THE LANCET.

SIRS,—When the Koch treatment was first introduced, I remarked to my partner that it put me in mind of the surgical treatment of phthisical cavities, which was mooted and written about, and, if I mistake not, put into practice so long ago as the end of 1851. This identical method of treatment is reported in THE LANCET of March 7th this year, and cases given from the practice of Drs. Sonnenberg and Leser. The date is fixed in my mind, as I remember reading the accounts on my first voyage to the Australian gold fields. If reference were made to THE LANCETS at the end of that year accounts of this treatment would be found.

I am, Sirs, yours obediently,

Brierley-hill, March 16th, 1891. SAINTHILL PEARSE.

A FOREIGN BODY LODGED FOR EIGHT MONTHS IN THE BRONCHUS.

To the Editors of THE LANCET.

SIRS,—A case was lately reported in one of the French medical journals of a cigarette having remained in one of the bronchial tubes of an individual for seven months. A similar case came under my notice lately, in which a bone was lodged in one of the bronchial tubes for over eight months. The circumstances are these. A lady, while partaking of some soup at lunch, turned quickly to speak to one of her children, when she felt the bone pass into the larynx, which caused a fit of coughing with nausea and vomiting. In the afternoon she went for a drive, having a sensation of "tightness in the chest and wheezing." About midnight or the early hours of the following morning she had another prolonged fit of coughing, followed during the day by feverishness at intervals, a troublesome cough, and all the symptoms of subacute bronchitis. With the aid of sedatives, such as chloric ether, bromide of ammonium, and compound tincture of camphor, the tightness in the chest was alleviated. The cough of the early hours of the morning still continued, but was at length allayed by a mixture containing sulphonal. Although greatly relieved by the medicine, she did not regain her usual health, and was very subject to exacerbations of cough and tightness in the chest on exposure to cold, so that for two months she was confined to her room. The bone was at length ejected in the following manner. The patient had been away on a visit, and on her return, after a journey of two days, she was coughing more than usual and could get no sleep, which she ascribed partly to having caught cold during the journey and partly to having been disturbed by her children, who were suffering from whooping-cough. Twenty-five drops of chlorodyne were accordingly given along with the usual dose of sulphonal mixture, which had the effect of giving her a good night's rest. This was repeated the next night, and on the following morning I was informed that she had rested well till 4 A.M., when a severe fit of coughing came on and lasted for over two hours, during which she several times nearly fainted, and that at length the bone was coughed up. Beyond a few streaks of blood in the sputum, there was nothing to indicate any injury it had caused in its passage out.

I am, Sirs, yours faithfully,

JOHN W. WEIR, M.D.,

March, 1891. District Surgeon, Enjoobo, Transkei.

THE PROFESSIONAL STATUS OF QUALIFIED ASSISTANTS.

To the Editors of THE LANCET.

SIRS,—Will you give me your assistance on the following case in your next issue?

I am qualified assistant to Dr. A., am twenty-seven years of age, was registered in December, 1888, am a member of the local medical chirurgical society, have been with Dr. A. a year and eight months, and hold more the position of a salaried partner than an assistant. Dr. A. is sent for to a case one night. He is ill, and sends me in his place. I treat the patient, and he takes two doses of my medicine, getting some relief. For some reason or other he has no confidence in me, and so, two hours perhaps afterwards, sends for another medical man—Dr. B. In the course of a conversation with my principal afterwards, Dr. B. says that he does not recognise me—ignores me—in the case. Dr. B. knew that I was qualified, and he also knows me personally. 1. Can Dr. B. thus ignore me? 2. Generally speaking, what is the position of a qualified assistant in relation to other qualified men? 3. Ought I to take up the matter, and request an explanation from Dr. B.? I am, Sirs, yours faithfully,

March 16th, 1891. C. A. L.

*** Dr. B. undoubtedly was within his right in ignoring the qualified assistant of a principal ill, but we think he would have acted a higher and more neighbourly part in regarding the illness of the principal as a reason for consulting with the *qualified* assistant or attending the patient till his own adviser was able to resume the care of the case. We assume that the relations of the two principals were of a friendly character, and that the patient would have acquiesced in such an arrangement.—ED. L.

Rapier.—1. We do not see that our correspondent has any remedy for the action of his board of guardians.—2. "Rapier's" friend can certainly claim his fee.

Conservative has forgotten to enclose his card.

THE USE OF THE RECTAL BAG IN LITHOTRITY.

To the Editors of THE LANCET.

SIRS,—With reference to Mr. Reginald Harrison's remarks in your last issue on the use of the rectal bag in certain cases of sounding for stone and of lithotrity, I am quite sure that a paper I read before the Harveian Society of London, and which was afterwards published at length in the *Provincial Medical Journal* of April, 1890, "On some Sources of Error in Sounding for Stone when the Prostate is Enlarged, with a description of a New Form of Sound," has entirely escaped his notice. I there described the use of the rectal bag in a case in which I performed lithotrity, a very deep post-prostatic pouch being present, in order "to prevent, as far as possible, débris from falling into the pocket behind the prostate." I am, Sirs, yours truly,

Wimpole-street, W., March 16th, 1891. G. BUCKSTON BROWNE.

Francis.—It has been taught by some authorities, especially in France, that there is a period of agenesis in the inter-menstruum; but it is not an established fact. No doubt there is not so great a probability of insemination being fruitful at the time stated by our correspondent. As a matter of experience, conception does take place during any part of the month, but perhaps with greater certainty after or before the menstrual period.

A Country Person.—Our correspondent should communicate with the Medical Defence Union.

Dr. W. N. Thursfield will find the case commented on in our last issue.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Hale White, London; Mr. L. Browne, London; Dr. Wyllie; Dr. Gordon Holmes, London; Mr. Towers-Smith, London; Mr. Pearse, Brierley Hill; Sir E. Saunders, London; Dr. Horrocks, London; Mr. Lawson Tait, Birmingham; Dr. Gowers; Dr. Sainsbury, London; Dr. More Madden, Dublin; Dr. Collins, London; Dr. Althaus, London; Dr. W. Hime, Bradford; Sir W. Dalby, London; Dr. Rutherford, Glasgow; Dr. D. James, Sheffield; Mr. White, Guildford; Messrs. Langridge and Freeman, Cheapside; Mr. Ainley, Halifax; Messrs. Richardson and Co., Leicester; Dr. H. Barnes, Carlisle; Messrs. Burgoyne and Co., London; Mr. Deuchar, Edinburgh; Messrs. Keith and Co., New York; Dr. Syer, London; Dr. M. Baines, London; Messrs. Krohne and Sesemann, London; Dr. Thursfield, Shrewsbury; Mr. Buckston Browne, London; Mr. T. Christy, London; Messrs. Farmer, Lane, and Co., London; Dr. J. B. Ball, London; Dr. J. H. Mearns, Cape of Good Hope; Dr. Steele, Clifton; Dr. Stalcatt, London; Messrs. Ingram and Royle, Battersea; Mr. G. T. Wilkinson, Scarborough; Mr. Mayo Robson, Leeds; Mr. J. H. Caird, Lochgoilhead; Messrs. Blondeau et Cie., London; Dr. Ridge, Enfield; Dr. Eichberg; Messrs. Bishop and Sons, London; Dr. Churton, Leeds; Dr. Walmsley; Mr. Gifford Nash, Plymouth; Mr. Reeves, London; Dr. G. Johnson; Dr. Oscar Liebreich, London; Dr. Rentoul, Liverpool; Messrs. Mitchell and Co., London; Mr. Bampton, Ilkley; Dr. J. Adam; Messrs. Orridge and Co., London; Mr. R. Lloyd, London; Messrs. W. H. Smith and Son, London; Dr. E. B. Edwards, Constantinople; Messrs. Lloyd and Co., Leicester; Mr. Michelli, London; Mr. Piggott; Messrs. Bush and Son, Sheffield; Dr. R. Neale, Hampstead; Messrs. Heywood and Co., Manchester; Mr. E. Roberts, Manchester; Messrs. Perkins and Co., London; Mr. Whitefoord, London; Dr. J. E. Squire; Dr. Hingston Fox, London; Col. Fitzgerald; Mr. H. Herbert; Messrs. Hawkins and Thorpe, London; Mr. McClelland, Glasgow; Messrs. Price and Co., Battersea; Mr. Moullin; Dr. Black, Glasgow; Messrs. Cassell and Co., London; Dr. Holden, Edinburgh; Mr. Singleton, Jarrow; Mr. F. Grange, London; Dr. Fitzgerald, Folkestone; Mr. Ackrill, Harrogate; Dr. Hodsdon, Edinburgh; Dr. Fletcher, Ormskirk; Mr. T. P. Lowe, Bath; Mr. Yeoman, Morpeth; Dr. Potter, London; Mr. Evans, Shrewsbury; Mr. Sharpe, Matlock; Mr. Huish, London; Mr. Freer, Llandudno; Mr. George, Preston; Mr. Mitchell, Hepburn; Mr. Tate, Manchester; Mr. Coombs, Bridgwater; Mr. Barling, London; Mr. M. Wheeler, London; Mr. C. Heath, London; Mr. Tresise, Burton-on-Trent; Dr. Fletcher, Highgate; Mr. Mayhew, Ipswich; Mr. S. E. Atkins, London; Dr. Skrimshire, Holt; Mr. Smith, London; Mr. A. Mackay, Aberdeen; Mr. Woodeson, Milton; Mr. Meadows, Hastings; Messrs. Squire, London; Rapier; C. A. L.; Maltine Manufacturing Co., Bloomsbury; Francis; R. B., London; M.D., F.R.C.S.; County Asylum, Shrewsbury; Surgery, London; M. M., London; A Country Person; Sister-in-Charge, Hitchin; General Practitioner; Kent and Canterbury Hospital; Inexpertus; Secretary, Worcester County Asylum; Prescriber; Stockport Infirmary; Secretary, Chichester Infirmary; Public Hospital, Sheffield; F.R.C.S.

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NEWSPAPERS.—*National Press (Dublin), Edinburgh Evening Dispatch, North British Mail, Islington Gazette, Leeds Mercury, L'Independence (Brussels), Birmingham Post, Scottish Leader, The Newspaper, City Press, Windsor and Eton Gazette, Mining Journal, Liverpool Daily Post, Manchester Guardian, Bristol Mercury, Weekly Free Press and Aberdeen Herald, Reading Mercury, Hertfordshire Mercury, Windsor and Eton Express, Local Government Chronicle, Sunday Times, Broad Arrow, Builder, Metropolitan, West Middlesex Standard, Chemist and Druggist, Spectator, Saturday Review, Law Journal, Pharmaceutical Journal, Architect, Guy's Hospital Gazette, Surrey Advertiser, Labour World, West Middlesex Advertiser, Times of India, Melbourne Argus, Bradford Observer, New York Herald, Hastings News, Eastbourne Gazette, Worcester Chronicle, Luton Times, Staffordshire Chronicle, Southampton Times, Shields Daily Gazette, Norfolk Daily Standard, Sidmouth Observer, Cape Times, Evening Mail (Portsmouth), Chester Courant, Dartmouth Chronicle, Andover Standard, Birmingham Daily Gazette, Corriere D'Italia (Rio de Janeiro), The Schoolmaster, &c.*, have been received.

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